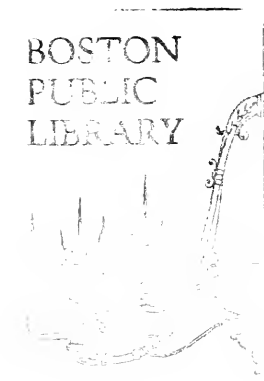




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HYGEIA INC.

REPORT AND RECOMMENDATIONS OF THE SURVEY FOR ASBESTOS AND PCB-CONTAINING MATERIALS AT THE PROPOSED COMMONWEALTH CENTER DEVELOPMENT SITE, WASHINGTON STREET, BOSTON, MASSACHUSETTS

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VOLUME ONE  
SURVEY REPORT OF  
ASBESTOS AND PCB-CONTAINING MATERIALS  
COMMONWEALTH CENTER DEVELOPMENT SITE  
BOSTON, MASSACHUSETTS

May 31, 1989

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## T A B L E O F C O N T E N T S

<u>CONTENTS</u>	<u>PAGE</u>
<b>VOLUME 1</b>	
EXECUTIVE SUMMARY.....	iii
INTRODUCTION .....	1
PART ONE - LOCATION OF ASBESTOS-CONTAINING MATERIAL ...	9
<u>Building Name:</u>	<u>Page</u>
House of Hurwitz	9
Sallinger	9
State II Theatre	10
CB Lounge	10
State I	11
Evans Building	12
St. Francis House, Sub-basement	15
Haymarket	15
611 Building	16
Liberty Video/Book Store	18
Avery Hotel	18
Paramount	23
PART ONE - LOCATION OF PCB-CONTAINING LIGHT BALLASTS...	24
PART TWO - ASSESSMENT AND RECOMMENDATIONS .....	26
PART THREE - COST ESTIMATE OF RECOMMENDATIONS .....	78
Asbestos Abatement.....	78
PCB Abatement.....	86
PART FOUR - ANALYSIS OF SAMPLES .....	88
TABLE 1A, Estimated Costs of Asbestos Abatement.....	78
TABLE 1B, Estimated Costs of PCB Removal (Ballasts).....	86
Summary of Estimated Costs.....	87
TABLE II Bulk Sample Analysis Results.....	89
APPENDIX A: HYGEIA INC. SKETCHES	
House of Hurwitz	
Sallinger	
State II Theatre	
CB Lounge	
State I	





T A B L E   O F   C O N T E N T S  
(continued)

Evans Building  
St. Francis House, Sub-basement  
Haymarket  
611 Building  
Liberty Video/Book Store  
Avery Hotel  
Paramount

VOLUME TWO

APPENDIX B: ORIGINAL HYGEIA INC. SURVEY SHEETS

APPENDIX C: ORIGINAL HYGEIA INC. BULK SAMPLE ANALYSIS SHEETS



## **EXECUTIVE SUMMARY**

During April-May, 1989, nine buildings at the Commonwealth Center Development site between Washington and Tremont Streets, Boston were surveyed for asbestos-containing and PCB-containing materials. All accessible areas within the buildings were included in the survey, the results of which are included in this report.

The purpose of the survey was to identify all locations of asbestos- and PCB-containing materials, so that those materials can be properly removed and handled prior to the planned renovation and demolition work at the site. Nearly all of the buildings are slated for demolition or extensive and complete renovation. Because of these planned activities, the removal and handling actions which must be undertaken are generally straightforward, in that all of the asbestos- and PCB-containing materials must be removed prior to the other demolition and construction activity. This removal work is mandated under State and Federal regulations, and is recommended because of the potential health hazards that can exist or be generated for unprotected construction personnel from these materials.

The actual survey results are presented in the report, after an initial discussion of the survey procedures. The location and amounts of asbestos- and PCB-containing materials are presented on a building by building basis.

The identified materials are then assessed and recommendations are made for particular abatement actions. Again, because of the extensive demolition and renovation work, these abatement actions are limited in the sense that removal of the materials is the only option available to properly handle the materials. Estimated costs for this removal are then calculated and listed. At the end of the report is presented various supporting documentation of the survey, including sample analysis sheets, and field survey sheets.

The survey included the following buildings and areas: House of Hurwitz; Sallinger Building; State II Theatre; CB Lounge Building; State I Theatre; Evans Building; St. Francis Sub-basement; Haymarket; the businesses located at 611 Washington St.; the Liberty Book Store; the Hotel Avery; and the Paramount Theatre. For all of the areas except those in the Paramount, the survey was comprehensive since no such survey had been conducted before.



In the Paramount Theatre, all of the asbestos-containing materials had reportedly been removed previously, and, thus, a comprehensive asbestos survey was not considered necessary nor was conducted. The entire building was surveyed for PCB-containing materials, during which the surveyors inspected for asbestos-containing materials. As will be noted in the report, a small amount of asbestos was found in the building. The boiler room (and any other areas at that lower level of the building) could not be surveyed because it was flooded. That area is scheduled to be pumped out, after which the survey can be completed in those areas.

In general, in each building and area surveyed, the two surveyors noted the different types of construction materials which would likely be asbestos-containing; collected samples of the suspect material for laboratory analysis; noted amounts and particular locations of the materials; noted the conditions of the materials; and noted any other site conditions (such as contaminated debris) considered useful information for both the survey and for determining appropriate abatement action.

Mechanical thermal insulating materials, such as pipe and boiler insulation, were the most prevalent asbestos-containing material found in the buildings. These materials were found throughout all the buildings, except in the Liberty Book Store and in the Paramount Theatre. In the Paramount, a small amount of pipe insulation was found above a finished ceiling (the ceiling had deteriorated). The Book Store had recently (within the past five years) been renovated, and any asbestos pipe insulation had probably been removed at that time.

In several of the buildings, most notable in the Avery Hotel and the State Theatres, these materials were extremely damaged and have contaminated extensive areas of the basements and sub-basements of those buildings: some upper floor areas were also found to be extensively contaminated because of similar conditions. This contamination greatly increased the estimated costs of any proposed abatement and cleanup activities in the buildings.

Asbestos-containing flooring and roofing materials were also found in and on nearly every building: no such flooring material was found in the Paramount. Other areas, as noted in the detailed list, have no roof associated with them. The flooring materials included vinyl asbestos floor tile and rolled linoleum. All of the buildings surveyed were found to have tar and gravel type



roofs. The tar on those roofs was found to be asbestos-containing. In general, these materials are considered non-friable (cannot be broken up by hand pressure) and do not present any significant hazard until they are broken in such a manner as to release airborne asbestos fiber: e.g. during demolition activity. However, current regulations require the proper handling and disposal of the materials in construction and/or demolition activity.

Other asbestos-containing materials identified during the survey included acoustical ceiling plaster, fireproof ceiling plaster, insulated fire doors, and cementitious covering on mechanical equipment. A summary of the material identified in each building is presented at the end of the "Recommendations" section of the report. Again, a detailed listing of asbestos-containing materials is shown in Part 1.

A detailed list of PCB-containing materials is also presented in Part 1. The total amount of these materials was much less than the asbestos materials, and at present only consist of PCB-containing fluorescent light ballasts. Two other suspect items (one in the Paramount and one in the State Theatre) will be sampled during the week of May 29, 1989. That sampling was delayed until the Boston Edison Company had provided information regarding potential locations of transformers and capacitors (likely PCB-containing electrical equipment) within the buildings. A Boston Edison Company (BEC) representative has stated that the BEC is not aware of any of their equipment which would contain PCBs, and which would be located within the buildings. Transformers for those buildings are reportedly located within sidewalk vaults.

Several areas within the buildings could not be accessed during the survey: flooded basement of the Paramount and walled off or sealed tunnels leading from basements or sub-basements in several of the buildings (including the Avery, St. Francis, 611 Building, and the State Theatres). The Paramount basement will be surveyed once the area is pumped out. The other areas included bricked up steam tunnels, which may contain asbestos-containing materials. The tunnels probably do not contain PCBs, in HYGEIA INC.'s opinion, because of their location and age. Since these tunnels undoubtedly were attached to other buildings (since demolished) and contained steam piping which was asbestos insulated, that steam piping may still be present in the inaccessible areas of the tunnels. The sites of these former buildings may also cover asbestos materials not removed when





the demolition occurred. HYGEIA INC. recommends that some unearthing of these materials be anticipated during the demolition and excavation activity.

Because of the extensive amount of asbestos-containing materials found during the survey, and the significant amount of that material which is damaged and has contaminated large areas of some of the buildings, the estimated costs of the abatement activities are large: estimated at \$ 5.5 - 7.5 million. As can be noted in Tables 1A and 1B, where a detailed cost breakdown is presented, the relative cost of the PCB removal is small compared to the asbestos removal and cleanup. Because of the factors noted above, and the difficult conditions found in several of the buildings, large complicating factors were added to the estimated unit costs normally utilized by HYGEIA INC. HYGEIA INC. also recommends that the upper range of the estimated costs be increased to eight or nine million because of some of the uncertainties associated with the inaccessible tunnels and with the sites of the former buildings.

The abatement cost associated with the Avery Hotel constitutes the largest segment of those estimated costs: some \$ 2 - 3 million of the total. This large amount is due to both the amount of material found and the large amount of items, equipment, and contaminated debris noted in the basement and sub-basement of the building.

The asbestos abatement in the CB Lounge, the 611 Building, and the St. Francis Sub-basement also constitute relatively large amounts to the total. In the St. Francis Sub-basement, conditions similar to the Avery Hotel were noted. Additionally, access to this area is very limited and contributes greatly to the significant costs associated with that area.

In summary, the removal of all asbestos-containing and PCB-containing materials in all of the buildings and areas is necessary for all of the buildings surveyed for this project. The amounts of either type of material varies greatly from building to building; however, asbestos-containing materials and asbestos-contaminated debris constitute the greatest amount of material identified, and constitute the greatest estimated cost associated with the project. These materials must be removed prior to any other demolition or renovation activity both to eliminate significant health hazards noted in the buildings and also to comply with existing Federal and State regulations.



## INTRODUCTORY REMARKS

On April 17, 1989, through May 8, 1989, HYGEIA INC. conducted a survey for asbestos and polychlorinated biphenyls (PCB)-containing materials within the buildings located at the proposed Commonwealth Center Development site on Washington and Tremont Streets in Boston. The survey consisted of nine buildings including associated boiler rooms, basements, and steam tunnels.

The results and recommendations of the survey are presented in this report.

In Part One of this report are listed the estimated amounts of asbestos-containing material in the buildings, and their condition (at the time of the survey). The amounts and locations are presented on a floor by floor basis for each building.

Additionally, in Part One are listed the location and type of PCB-containing equipment noted during the survey. At the time of this report, the Boston Edison Company (BEC) has indicated that no PCB sources known to them are contained in the buildings. Mr. George Hazopoulos, with the BEC, indicated that knowledge in a telephone conversation on May 26, 1989 with Mr. Mark Arriens, after numerous requests by HYGEIA INC. for that information.

Assessments of the condition of the material and recommendations for abatement are included in Part Two, along with photographs taken of selected areas where more than a written description was considered necessary. Whenever possible, rough sketches (not to scale) were made to aid the description process, and are included in Appendix A.

Estimated costs to implement these recommendations are contained in Part Three.

In Part Four of this report the results of the analyses of the bulk samples of asbestos collected during the survey are presented. The analyses were conducted at the HYGEIA INC. laboratory in Waltham, MA.



No analyses of PCB-containing materials have yet been made. The PCB-containing light ballasts listed in Part One were all assumed to be PCB-containing based on their age and labeling. Since the BEC has finally provided information regarding the site, additional samples of two suspect items in the Paramount and in the State I Theatre will be collected. This sampling had been purposely delayed until the BEC had provided their information.



## INTRODUCTION

### 1. Description of Each Building

The House of Hurwitz was located at 571 Washington Street. The building was abandoned and consisted of a basement (no boiler room) and two upper floors.

The Sallinger Building, located at 565 Washington Street, was an abandoned six story building, including a basement (no boiler room).

The State II Theatre, on Washington St., was an abandoned one-story structure consisting of an office, a lobby, restrooms, and the theatre itself.

The CB Lounge Building, on Washington St., was accessed through a lobby and included a clothes store, a lounge area, and four floors of abandoned office spaces. Also accessible from this entrance was a large basement that serviced the CB Lounge and its' upper floors, the clothes store, and the State II Theatre.

The State I Theatre located at 625 Washington Street, was an abandoned two-story structure with a basement (no boiler room) and a first floor lobby and theatre. There was also a store accessible through this entrance.

The Evans Building, on Tremont Street, had a basement and boiler room, as well as six floors of occupied living and office space. Included as separate sections to this building were the My Tan Video Store, the Viet Nam Coffee House, and The Viet Nam Market.

The St. Francis House (entered from Tremont St.) Sub-basement included a large boiler room under the parking lot located behind St. Francis House. This boiler room appeared to have serviced many buildings in the area at some time in the past.

The Haymarket, on Washington St., was a two story structure including a basement (no boiler room) and an upstairs bar/disco which was occupied at the time of this survey.





611 Washington Street was six stories high and included a boiler room which serviced the Haymarket and 611 Washington Street. A Goodwill Store, and several offices and businesses, which were in operation at the time of this survey, were located at this address.

The Liberty Book Store, again on Washington St., was a two story structure with a basement and two floors which were still being used at the time of this survey.

The Hotel Avery, on Washington St., was an eleven story abandoned structure with a sub-basement which included a boiler room, and a basement used mostly for storage. Many floors and walls were badly damaged in this building.

The Paramount was a large theatre with a basement and a sub-basement which was completely flooded and non-accessible at the time of this survey. This area will be surveyed once the basement is pumped out. The sub-basement may include a boiler room.

## 2. Scope of Work

The present study was directed towards reviewing the heating and plumbing, and electrical systems, identifying all asbestos-containing material and potential PCB-containing equipment in these systems, as well as identifying miscellaneous asbestos-containing materials and potential PCB-containing equipment found throughout the buildings, such as floor tiles and ceiling tiles (asbestos) and transformers, capacitors, and fluorescent light fixture ballasts. The immediate concern of the survey was to locate and identify asbestos-containing materials, and assess their condition, in order to recommend appropriate response actions, as well as to identify PCB-containing equipment so that it could be properly handled during upcoming demolition and renovation work.

## 3. Description of the Inspection/Survey for Asbestos-Containing Building Materials

### Initial Assessment and Review:

Before the inspection/survey started, the HYGEIA INC. inspectors studied all available information and documentation of all previous asbestos work in the buildings and copies of sketches and drawings of the buildings. Upon completing a review



of the available information, the HYGEIA INC. inspectors and project manager conducted a brief walkthrough of the site to plan a survey strategy, in order to properly identify the extent and condition of the asbestos-containing building materials in the building. Nothing was generally assumed and a complete survey and inspection of the buildings was completed to locate, quantify and sample all materials generally following the survey protocols established by the Asbestos Hazard Emergency Response Act (AHERA). This approach was considered necessary to provide the most accurate survey. As the survey proceeded, all items/equipment potentially containing PCBs were noted. Items such as light ballasts were assumed to contain PCBs if they were not marked as "containing no PCBs". Other items/equipment (primarily transformers and capacitors) were to be sampled as necessary, once the entire survey was completed. At the time of this survey only two other potential items were identified: one in the Paramount Theatre and one in the State I Theatre. These items will be sampled, if necessary, during the week of May 29, 1989. The sampling was delayed until Boston Edison Company (BEC) had supplied information: in the hope that the necessary sampling could be coordinated. BEC only provided information on May 26, 1988. The results will be made available as a supplement to this report.

Procedure (for asbestos survey):

Each space in every building was examined by certified Massachusetts asbestos inspectors (certification required for asbestos inspections), who touched material, took samples, measured material quantities, made sketches, made an assessment of the physical condition of the materials suspected of being asbestos-containing building material, marked drawings, and completed the field paperwork. The surveyors were experienced, having worked on previous asbestos surveys, specification preparation, asbestos analysis and monitoring and reporting of asbestos repair and removal construction. Standardized forms were used to gather the data, including forms to note:

- a. Different types of material (homogeneous materials);
- b. Individual survey sheets for each room, space and area, or groups of rooms, spaces and areas, as appropriate;
- c. Sampling sheets to determine location of samples to achieve a correct random sampling of each homogeneous material;



- d. Chain of custody records to accompany the samples to the laboratory.

The individual building survey started in the boiler room, steam supply space, or mechanical room, as appropriate, where the method of heating and type of materials used in the mechanical system insulation were identified. Any insulation (lagging) found was identified as solid, both "hard" and "fluffy", or as corrugated "aircell" types. Insulation on pipe joints, fixtures and valves was similarly checked. The surveyors then proceeded through the building examining and measuring suspect asbestos-containing material in each room or area. The insulation on air duct and air handling machinery was also checked. An examination was made for sprayed-on acoustical ceilings and sprayed-on fireproofing which can be found on building structural steel and decking. The wall and ceiling construction was checked for plaster, and the ceiling and floor tile were also inspected. Particular attention was taken to ensure that any new materials, such as might have been used in repairs, and all ceiling material were identified. Samples of all suspect material were collected, with each homogeneous area of material or length of pipe insulation sampled. The detailed field survey forms included sections for surfacing material, thermal system insulation and miscellaneous materials, as classified by the AHERA regulations.

The inspector/surveyors identified all visible material that could potentially contain asbestos. Then, on the basis of a review of the construction and the mechanical system of the building, they made an estimate of any additional material that might be hidden by the building structure. This could include, for example, insulation on pipe risers of the heating system built into walls and structural fireproofing above plaster ceilings.

An inventory of all asbestos-containing materials identified during this survey is presented in Part One of this report.

Finally, sketches were also made to indicate the extent of the asbestos-containing material found, and these sketches are included in the Appendix A for those materials confirmed to contain asbestos by laboratory analysis.



Sampling Strategy

HYGEIA INC. has developed standard procedures to be used in order to randomly sample each material suspected to be asbestos-containing. This procedure fulfills all the requirements of the AHERA sampling protocol, including the distribution and number of samples to properly quantify the material.

A sampling sheet was filled out for each homogeneous material identified in a building. The quantity of material was listed for each room, and the total for each type (homogeneous area) of material determined. For surfacing material, the total area was divided into nine equal quadrants. A random numbering of these quadrants was then used and samples were taken from the appropriate quadrants. For thermal system insulation and miscellaneous material, appropriate numbers of samples were taken from each type (homogeneous area).

In order to classify any homogeneous material type as a **non-asbestos-containing** building material, it was required that a minimum number of samples must be analyzed and all the samples analyzed must show the lack of asbestos content (less than one percent asbestos). For any miscellaneous material, e.g. ceiling tile, a minimum of one sample was necessary. For thermal system insulation, a minimum of three samples was necessary for each homogeneous material and it was required that all samples show no asbestos content (less than one percent asbestos) before that material would be accepted as non-asbestos-containing. For surfacing materials, e.g. ceiling acoustical sprayed-on material, a minimum of three samples was necessary, with five samples necessary for a quantity of material greater than 1000 but less than or equal to 5000 square feet, and seven samples necessary for a quantity of material greater than 5000 square feet. It was required that all samples show no asbestos content (less than one percent asbestos) before that material would be accepted as non-asbestos-containing.

Samples were then taken and logged in on a chain of custody sheet. The samples were taken to the HYGEIA INC. Laboratory for analysis.

In those cases where the material was known to contain asbestos by the inspectors without sampling being necessary, (such as "Aircell" and "Magnesia" pipe insulation and vinyl floor





coverings) the material was assumed to contain asbestos and sampling was limited to the taking of the occasional confirmatory sample.

For floor materials, such as 9x9-in. and 12x12-in. vinyl floor tile (VT), the materials were assumed to contain asbestos. These materials included the associated mastic under the tiles. Because of the age of the materials and their interspersed nature, this assumption was considered valid.

#### Laboratory Analysis of Material Samples

Laboratory analysis of the samples of suspect asbestos-containing building material was completed at HYGEIA INC.'s Waltham, MA laboratory.

The bulk samples were analyzed by polarized light microscopy (EPA Interim Method: Appendix A to Subpart F-40 CFR Part 763) at magnifications ranging from 10x to 400x. The estimated phase abundances are provided in weight percent and are accurate to within 10 to 15 percent of the amount reported. This method is sensitive to the detection of asbestos to less than one percent by weight. The HYGEIA INC. laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) (Laboratory Code 1011 00) of the National Institute of Standards and Technology (NIST) for asbestos in bulk sample analysis and by the States of Massachusetts, Rhode Island, Connecticut, Vermont, New York, and Maine for asbestos analysis.

The HYGEIA INC. laboratory is accredited by the American Industrial Hygiene Association for asbestos analysis (AIHA #272) and participates in the National Institute of Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program for air asbestos samples.

#### Classification of Material Condition

In the survey of the buildings, all asbestos-containing building material was classified as to physical condition found, as follows:

GOOD:



Asbestos-containing building material in good condition was whole and complete and typical of new installation. As such, it would not be expected to release airborne asbestos fiber unless severely damaged by direct physical action to disturb the material or by breakthrough any outer covering.

**DAMAGED:**

Asbestos-containing building material in damaged condition was generally complete but showed some limited signs of damage or deterioration. As such, it would be expected to release airborne asbestos fiber when disturbed or if the structure to which the material was attached was severely vibrated. The material was classified as damaged when the damage/deterioration was over less than one tenth of the surface and was evenly distributed or when the damage/deterioration was over less than one quarter of the surface if the damage/ deterioration was localized.

**SIGNIFICANTLY DAMAGED:**

Asbestos-containing building material in a significantly damaged condition was generally severely damaged or deteriorated, often with pieces missing. As such, it would be expected to release airborne asbestos fiber due to simple building motion or air currents. The material was classified as significantly damaged when the damage/deterioration was over one tenth or more of the surface and was evenly distributed or when the damage/deterioration was over one quarter or more of the surface if the damage/deterioration was localized.

It should be recognized that material classified in good condition can deteriorate or become damaged in time to become in a damaged or even significantly damaged condition. The assessments and classifications given in this report refer only to the observed conditions at the time of the inspection/survey.

**Procedure (for PCB survey):**

In general, during the survey the inspectors were to note electrical equipment such as transformers, capacitors, and switches, which were the most likely types of electrical equipment which would contain PCBs. The inspectors also noted the location and number of fluorescent light fixtures and ballasts, and, where possible, also noted the manufacturer and



model number of the ballasts. All light fixture ballasts manufactured after 1978 were to be non-PCB-containing and would be marked "No PCBs". Thus, all ballasts without that identification, or which could not be accessed because of location were assumed to be PCB-containing. The PCBs are normally located in a small capacitor within the ballasts.

Light fixture ballasts were noted as either PCB-containing or non-PCB-containing, as appropriate. Other likely sources were sampled after the initial survey was completed. As noted earlier, in an attempt to obtain information from the Boston Edison Company (BEC), sampling of those suspect items was delayed until the week of May 29, 1989. The results of that sampling were not available as of the writing of this report. Those results, and any additional information supplied by BEC will be included in a supplement to this report.



PART ONE

LOCATION OF ASBESTOS-CONTAINING MATERIAL

House of Hurwitz, 571 Washington Street

Basement

Pipe Insulation ("Magnesia"), 0-4 inch diameter (in. dia.), 600 linear feet (lf), damaged;  
Pipe Joint Insulation, 0-4 in. dia., 10 Joints (J), good;  
Vinyl Asbestos Floor Tile, 9x9 in., 300 square feet (sf), good;

First Floor

Pipe Insulation ("Tarred Rope"), 0-4 in. dia., 20 lf, good;  
Pipe Joint Insulation, 0-4 in. dia., 10 J, good;  
Vinyl Asbestos Floor Tile, 12x12 in., 9,000 sf, good;

Second Floor

Pipe Insulation ("Tarred Rope"), 0-4 in. dia., 10 lf, good;  
Roof Tar (Two Cans);  
Vinyl Asbestos Floor Tile, 12x12 in., 9,000 sf, good;

Roof

Roof Tar, 9000 sf.

Sallinger, 565 Washington Street

Basement

Pipe Insulation ("Air Cell"), 0-4 in. dia., 160 lf, significantly damaged;

First Floor

Pipe Insulation ("Air Cell"), 0-4 in. dia., 35 lf, damaged;  
Vinyl Asbestos Floor Tile, 12x12 in., 3,000 sf, good;

Second Floor

Pipe Insulation ("Air Cell"), 0-4 in. dia., 20 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 20 sf, significantly damaged;  
Fire Door, 150 sf, good;





Sallinger, 565 Washington Street (cont.)

Third Floor

Pipe Insulation ("Air Cell"), 0-4 in. dia., 120 lf,  
significantly damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 1,500 sf,  
significantly damaged;

Fourth Floor

Vinyl Asbestos Floor Tile, 9x9 in., 3,000 sf,  
significantly damaged;

Roof

Tar Insulation, 3,000 sf, good.

State II Theatre

Office and Restrooms

Ceiling Tile, 1x1 ft., 400 sf, damaged;

Theatre and Behind Screen

Pipe Insulation ("Air Cell"), 0-4 in. dia., 20 lf,  
damaged.

CB Lounge

Basement: Lounge, Store, State II

Pipe Insulation ("Magnesia"), 0-4 in. dia., 1,500 lf,  
significantly damaged;  
Contaminated Debris, 5,000 sf;  
Vinyl Asbestos Floor Tile, 12x12 in., 7,000 sf,  
significantly damaged;

Clothes Store

Vinyl Asbestos Floor Tile, 9x9 in., 300 sf, damaged;

Second Floor, Bar

Pipe Insulation ("Magnesia"), 0-4 in. dia., 300 lf,  
significantly damaged;

Back Stairwell

Pipe Insulation ("Magnesia"), 0-4 in. dia., 200 lf,  
significantly damaged;



CB Lounge (cont.)

Third Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 200 lf, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 5,000 sf, significantly damaged;

Fourth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 190 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 4,000 sf, damaged;

Fifth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 280 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 3,000 sf, damaged;

Sixth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 40 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 3,000 sf, damaged;

Roof

Tar Insulation, 10,000 sf, good;

Steam Tunnel

Pipe Insulation ("Air Cell" and "Magnesia"), 0-4 in. dia., 300 lf, significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 200 lf, significantly damaged.

State I, 625 Washington Street

Basement Right

Pipe Insulation ("Magnesia"), 4-8 in. dia., 400 lf, significantly damaged;

Basement, Rest Room, Front Crawl Space

Pipe Insulation ("Magnesia"), 4-8 in. dia., 350 lf, significantly damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, good;

First Floor Lobby

Vinyl Asbestos Floor Tile, 12x12 in., 30 sf, good;



State I, 625 Washington Street (cont.)

Theatre

Vinyl Asbestos Floor Tile, 9x9 in., 200 sf,  
significantly damaged;

Behind Stage

Pipe Insulation ("Magnesia"), 4-8 in. dia, 80 lf,  
significantly damaged;  
Cork Ceiling Tiles, 1x1 ft., 600 sf, damaged;

State I, Other Store

Vinyl Asbestos Floor Tile, 9x9 in., 250 sf,  
significantly damaged;  
Vinyl Asbestos Floor Tile, 12x12 in., 250 sf,  
significantly damaged.

Roof

Roof tar, 3000 sf

Evans Building

Basement Hallway

Pipe Insulation ("Magnesia"), 0-4 in. dia., 50 lf,  
significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 100 lf,  
significantly damaged;  
Tank Insulation, 120 sf, damaged;  
Ceiling Plaster, 1,500 sf, significantly damaged;

Barrel Room

Pipe Insulation ("Tape"), 0-4 in. dia., 30 lf, damaged;  
Ceiling Plaster, 600 sf, significantly damaged;

Boiler Room

Pipe Insulation ("Magnesia"), 0-4 in. dia., 50 lf,  
significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 10 lf,  
significantly damaged;  
Ceiling Plaster, 1,000 sf, significantly damaged;

Room 201

Pipe Insulation ("Air Cell"), 0-4 in. dia., 15 lf,  
good;  
Pipe Insulation ("Magnesia"), 0-4 in. dia., 40 lf,  
good;



Evans Building (cont.)

Room 201 (cont.)

Fire Door, 1;

Vinyl Asbestos Floor Tile, 9x9 in., 1,200 sf, good;

Room 205

Fire Door, 1;

Vinyl Asbestos Floor Tile, 9x9 in., 600 sf, good;

Vinyl Asbestos Floor Tile, 12x12 in., 100 sf, good;

Second Floor Rest Room and Hallway

Vinyl Asbestos Floor Tile, 9x9 in., 380 sf, good;

Room 202

Fire Door, 1;

Vinyl Asbestos Floor Tile, 12x12 in., 100 sf, good;

Vinyl Asbestos Floor Tile, 9x9 in., 1,300 sf, good;

Room 315

Fire Door, 1;

Vinyl Asbestos Floor Tile, 9x9 in., 800 sf, good;

Third Floor Hallway

Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, good;

Room 310

Fire Door, 1;

Linoleum, 200 sf, good;

Room 308 and 309

Vinyl Asbestos Floor Tile, 9x9 in., 400 sf,  
significantly damaged;

Rooms 302, 303, and 304

Vinyl Asbestos Floor Tile, 9x9 in., 600 sf, damaged;

Fourth through Sixth Floor Hallways

Vinyl Asbestos Floor Tile, 9x9 in., 500 sf, good;

Room 401 and 415

Fire Door, 2;

Vinyl Asbestos Floor Tile, 950 sf, good;

Rooms 411 through 413

Fire Door, 3;





Evans Building (cont.)

Rooms 406 through 408

Vinyl Asbestos Floor Tile, 9x9 in., 800 sf, good;  
Vinyl Asbestos Floor Tile, 12x12 in., 200 sf, good;

Rooms 403 through 405

Vinyl Asbestos Floor Tile, 9x9 in., 400 sf, good;

Room 501 and 502

Vinyl Asbestos Floor Tile, 9x9 in., 400 sf, good;

Rooms 504 through 509 (Advertising Dept)

Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, good;

Rooms 603, 606, and 608

Linoleum, 200 sf, good;

Room 604

Vinyl Asbestos Floor Tile, 9x9 in., 400 sf, good;

Room 610

Fire Door, 1;

Room 611 and 612

Fire Door, 2;  
Linoleum, 200 sf, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 400 sf, good;

Roof

Tar Insulation, 1000 sf, good;

My Tan Video Store (Basement)

Pipe Insulation ("Magnesia"), 4-8 in. dia., 100 lf, significantly damaged;  
Pipe Insulation ("Air Cell"), 0-4 in. dia., 50 lf, significantly damaged;

Viet Nam Coffee House

Vinyl Asbestos Floor Tile, 12x12 in., 300 sf, good;

Viet Nam Market - 1st Floor

Linoleum, 500 sf, significantly damaged;  
Vinyl Asbestos Floor Tile, 12x12 in., 200 sf, significantly damaged;



Evans Building (cont.)

Viet Nam Market - First Floor (cont.)

Vinyl Asbestos Floor Tile, 9x9 in., 600 sf,  
significantly damaged;

Viet Nam Market - Basement

Pipe Insulation ("Magnesia"), 0-4 in. dia., 60 lf,  
significantly damaged;  
Pipe Insulation ("Air Cell"), 0-4 in. dia., 20 lf,  
significantly damaged.

St. Francis House (Sub-Basement)

Boiler Room

Pipe Insulation ("Magnesia"), 0-4 in. dia., 500 lf,  
significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 150 lf,  
significantly damaged;  
Tank and Boiler Insulation, 1,000 sf, significantly  
damaged;  
Breeching Insulation, 240 lf, significantly damaged;  
Contaminated Debris, 2,500 sf;

Back Room

Fire Door, 1;  
Contaminated Debris, 900 cubic feet;

Tunnel

Pipe Insulation ("Magnesia"), 0-4 in. dia., 180 lf,  
significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 150 lf,  
significantly damaged;  
Tank Insulation, 40 sf, significantly damaged;  
Contaminated Debris, 500 sf;

Small Room by Entrance

Contaminated Debris, 100 sf.

Haymarket

Basement

Pizza Oven Insulation, 150 sf, good;  
Pipe Insulation ("Magnesia"), 0-4 in. dia., 175 lf,  
significantly damaged;  
Pipe Insulation ("Air Cell"), 0-4 in. dia., 150 lf,  
significantly damaged.



611 Building

Boiler Room

Pipe Insulation ("Magnesia"), 0-4 in. dia., 150 lf, significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 100 lf, significantly damaged;  
Tank Insulation, 40 sf, significantly damaged;  
Boiler Insulation, 2,000 sf, good;  
Ceiling Plaster, 150 sf, significantly damaged;  
Contaminated Debris, 500 sf;

Basement - Entry, Stairwell, Crawlspace

Pipe Insulation ("Magnesia"), 0-4 in. dia., 50 lf, significantly damaged;  
Contaminated Debris, 150 sf;  
Ceiling Plaster (on wall), 40 sf;

Goodwill Basement - Front Section

Pipe Insulation ("Magnesia and Air Cell"), 0-4 in. dia., 130 lf, significantly damaged;  
Contaminated Debris, 170 sf;

Goodwill Basement - Back Section

Pipe Insulation ("Magnesia"), 0-4 in. dia., 300 lf, significantly damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 200 lf, significantly damaged;  
Contaminated Debris, 1,000 sf;

Goodwill Store, 605 Washington Street - First Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 100 lf, significantly damaged;  
Vinyl Asbestos Floor Tile, 12x12 in., 5,000 sf, good;

Goodwill Store, 605 Washington Street - Second Floor

Linoleum, 1,500 sf, significantly damaged;

Front Lobby and Elevator

Vinyl Asbestos Floor Tile, 25 sf, good;

Furniture Store - Second Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 70 lf, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 350 sf, good;  
Vinyl Asbestos Floor Tile, 12x12 in., 4,000 sf, good;



611 Building (cont.)

Chrissy Sportswear - Third Floor

Vinyl Asbestos Floor Tile, 12x12 in., 50 sf, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 2,500 sf, good;

Room 308 and Hallway

Pipe Insulation ("Magnesia"), 0-4 in. dia., 100 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, significantly damaged;  
Fire Door, 1;

NHC - Fourth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 15 lf, damaged;  
Pipe Joint Insulation, 0-4 in. dia., 10 J, good;

Hallway - Fourth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 180 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, damaged;

Jo-Jo's - Fourth Floor

Pipe Insulation ("Magnesia"), 4-8 in. dia., 30 lf, significantly damaged;  
Pipe Joint Insulation, 0-4 in. dia., 3 J, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 300 sf, good;

Hallway - Fifth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 200 lf, damaged;  
Pipe Insulation ("Magnesia"), 4-8 in. dia., 20 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 1,000 sf, good;

Room 504

Pipe Insulation ("Magnesia"), 0-4 in. dia., 50 lf, significantly damaged;

Melina Sportswear - Sixth Floor Front

Pipe Insulation ("Magnesia"), 0-4 in. dia., 160 lf, damaged;





611 Building (cont.)

Hallway - Sixth Floor

Pipe Insulation ("Magnesia"), 0-4 in. dia., 150 lf, damaged;

Pipe Insulation ("Magnesia"), 4-8 in. dia., 150 lf, damaged;

Vinyl Asbestos Floor Tile, 9x9 in., 1,500 sf, good;

Melina Sportswear - Sixth Floor Back

Pipe Insulation ("Magnesia"), 0-4 in. dia., 60 lf, good;

Pipe Insulation ("Magnesia"), 4-8 in. dia., 60 lf, good;

Roof

Roof Tar, 4,500 sf, good;

Stairwell - Floors One Through Six

Linoleum, 400 sf, good.

Video/Book Store

Basement

Linoleum, 400 sf, good

Second Floor

Vinyl Asbestos Floor Tile, 12x12 in., 7,000 sf, good.

Avery Hotel

Boiler Room

Pipe Insulation ("Air Cell"), 0-4 in. dia., 100 lf, significantly damaged;

Breeching Insulation, 300 sf, significantly damaged;

Pipe Insulation ("Air Cell"), 4-8 in. dia., 30 lf, significantly damaged;

Pipe Insulation ("Magnesia"), 8-12 in. dia., 50 lf, significantly damaged;

Tank Insulation, 400 sf, significantly damaged;



Avery Hotel (cont.)

Sub Basement

Pipe Insulation ("Air Cell"), 0-4 in. dia., 1,500 lf,  
significantly damaged;  
Pipe Insulation ("Air Cell"), 4-8 in. dia., 2,000 lf,  
significantly damaged;  
Contaminated Debris, 4,000 cubic feet;

Basement

Pipe Insulation ("Air Cell"), 0-4 in. dia., 100 lf,  
significantly damaged;  
Contaminated Debris, 4,000 cubic feet;

Main Lobby

Vinyl Asbestos Floor Tile, 9x9 in., 2,500 sf,  
significantly damaged;  
Transite Chase, 40 sf, significantly damaged;

Piano Bar - (including rest rooms)

Pipe Insulation ("Air Cell"), 0-4 in. dia., 20 lf,  
good;  
Acoustical Ceiling, 400 sf, significantly damaged;

Second Entrance ("Lounge")

Duct Insulation, 960 sf, significantly damaged;  
Duct Debris, 960 sf;  
Vinyl Asbestos Floor Tile; 9x9 in., 100 sf,  
significantly damaged;

Second Entrance - Basement

Pipe Insulation ("Magnesia"), 0-4 in. dia., 70 lf,  
good;  
Pipe Insulation ("Magnesia"), 0-4 in. dia., 200 lf,  
significantly damaged;  
Duct Insulation, 1,200 sf, significantly damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 100 sf,  
significantly damaged;  
Contaminated Debris, 2,000 sf;

Safe Room - Second Floor

Pipe Insulation ("Air Cell"), 0-4 in. dia., 50 lf,  
significantly damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 300 sf,  
significantly damaged;  
Fire Door, 1;



Avery Hotel (cont.)

Corridor - Back Section, Second Floor

Pipe Insulation ("Air Cell"), 0-4 in. dia., 150 lf, good;  
Vinyl Asbestos Floor Tile, 9x9 in., 500 sf, significantly damaged;

Room 208

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, damaged;  
Pipe Insulation ("Air Cell"), 4-8 in. dia., 20 lf, damaged;

Rooms 201 through 207

Pipe Insulation ("Air Cell"), 0-4 in. dia., 140 lf, damaged;  
Vinyl Asbestos Floor Tile, 9x9 in., 80 sf, damaged;

Rooms 312 and 314

Pipe Insulation ("Air Cell"), 0-4 in. dia., 70 lf, significantly damaged;

Room 315

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, damaged;

Corridors - Front Section (08-01) In Ceiling Chases (Floors 3-11)

Pipe Insulation ("Air Cell"), 0-4 in. dia., 5,000 lf, good;

Corridor - 309-315

Pipe Insulation ("Air Cell"), 0-4 in. dia., 100 lf, good;

Third Floor - Back Section (Including Kitchen)

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, good;  
Contaminated Debris, 50 sf;

Fourth Floor - Back Section (401-416)

Pipe Insulation ("Air Cell"), 0-4 in. dia., 110 lf, damaged;



Avery Hotel (cont.)

Rooms 311 and 411

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf,  
significantly damaged;  
Contaminated Debris, 5 cubic feet;

Corridor - Back Section and 512 and 514

Pipe Insulation ("Air Cell"), 0-4 in. dia., 25 lf,  
good;

Room 511

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf,  
significantly damaged;  
Contaminated Debris, 5 cubic feet;

Corridor - Back Section and 612 and 614

Pipe Insulation ("Air Cell"), 0-4 in. dia., 25 lf,  
good;

Room 608

Pipe Insulation ("Air Cell"), 0-4 in. dia., 3 lf,  
significantly damaged;

Room 611

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf,  
significantly damaged;  
Contaminated Debris, 5 cubic feet;

Corridor - Back Section and 712 and 714

Pipe Insulation ("Air Cell"), 0-4 in. dia., 25 lf,  
good;

Room 709

Pipe Insulation ("Air Cell"), 0-4 in. dia., 3 lf,  
significantly damaged;

Room 711

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf,  
significantly damaged;  
Contaminated Debris, 5 cubic feet;

Back Stairwell

Fire Door, 1;





Avery Hotel (cont.)

Corridor - Back Section and 812 and 814

Pipe Insulation ("Air Cell"), 0-4 in. dia., 25 lf, damaged;

Room 811

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, damaged;

Room 815

Pipe Insulation ("Air Cell"), 0-4 in. dia., 5 lf, damaged;

✓ Room 808

Pipe Insulation ("Air Cell"), 0-4 in. dia., 7 lf, damaged;

Corridor - Back Section and 912 and 914

Pipe Insulation ("Air Cell"), 0-4 in. dia., 25 lf, damaged;

Room 911

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, damaged;

Room 908

Pipe Insulation ("Air Cell"), 0-4 in. dia., 5 lf, significantly damaged;

Room 906

Pipe Insulation ("Air Cell"), 0-4 in. dia., 7 lf, damaged;

Corridor - Front Section (9th floor)

Contaminated Debris, 600 sf, including loose sections of pipe insulation and accompanying debris;

Corridor - Back Section and 1012 and 1014

Pipe Insulation ("Air Cell"), 0-4 in. dia., 35 lf, damaged;

Room 1011

Pipe Insulation ("Air Cell"), 0-4 in. dia., 30 lf, damaged;  
Contaminated Debris, 5 cubic feet;



Avery Hotel (cont.)

Room 1008

Pipe Insulation ("Air Cell"), 0-4 in. dia., 5 lf,  
significantly damaged;

Room 1006

Pipe Insulation ("Air Cell"), 0-4 in. dia., 7 lf,  
damaged;

Corridor - Front Section (10th floor)

Contaminated Debris, 600 sf;

Room 1014

Pipe Insulation ("Air Cell"), 0-4 in. dia., 10 lf,  
damaged;

Eleventh Floor

Fire Door, 15;

Roof (Including storeroom)

Pipe Insulation ("Air Cell"), 0-4 in. dia., 10 lf,  
damaged;

Fire Door, 2;

Tar Insulation, 5,000 sf, good.

Paramount (doesn't include flooded basement)

Theatre

Fire Door, 11;

Front Lobby

Pipe Insulation ("Magnesia"), 0-4 in. dia., 30 lf,  
good;

Roof

Tar Insulation, 10,000 sf;

Air Handling Room

Cement Insulation, 1,200 sf, good.



INVENTORY OF SUSPECTED AND ASSUMED  
PCB CONTAINING FLUORESCENT LIGHT BALLASTS

<u>Building</u>	<u>No. of Ballasts:</u>	<u>Manufacturer of Ballast and Catalog Nos.</u>
Haymarket	6	Unable to examine
CB Lounge	65	G.E. 58G671 A.D. Light #1-140 Starring & Co. #HPF40-2 Todd Products #2H4118NC
Bookstore	6	Universal #B20-BR G.E. Class P #8G1011
Avery	10	Advance Transformer Co. #SM-2E75-S-1-TP
Viet Market	10	Lithonia UL #C75,466
Sallinger, 565 Washington Street	75	G.E. #7G1020B Universal #213BR Universal Safe-T-Fuse #806-BR-STF
Viet Coffee House	5	Universal Safe-T-Fuse #446-L-STF
Evans My Tan Video	103	Day-Bright Lighting Co. Issue #72084 Keene Co. UL List #D-129,205 Class P Advance Transformer #SM-2E75-S-TP Lithonia UL #C75,466 G.E. Rapid Start #7G1020 A.D. Light #ADM-275-S
Hurwitz	116	G.E. Instant Start Class P #8G1011W AD Lite #ADM-2E75-S Universal Therm-O-Matic #80GBRTCP



Project No. 5780

HYGEIA INC.

INVENTORY OF SUSPECTED AND ASSUMED

PCB CONTAINING FLUORESCENT LIGHT BALLASTS (Cont.)

<u>Building</u>	<u>No. of Ballasts:</u>	<u>Manufacturer of Ballast and Catalog Nos.</u>
611 Washington Street	339	AD-Light #5-240 Lithonia UL #C75,466 Universal 80G-BR-TC-P and 820-B14 G.E. 6G-1351





PART TWO

**ASSESSMENT**

In examining the results of the survey, it was necessary to review the condition of the material and the potential for release of airborne asbestos fibers and PCBs.

The potential for future hazards of exposure to airborne asbestos and to PCBs will depend to some extent on the plans for operation of the buildings and any particular demolition or reconstruction work. Renovation or demolition work that poses a risk of exposure to airborne asbestos includes work in any space where the asbestos-containing material on the mechanical systems is exposed or may be damaged during the course of renovation or demolition. Accordingly, such work should be controlled, including the use of proper isolation, personnel protection, clean-up methods, and testing to ensure a safe environment.

Since all of the buildings are slated for complete demolition or renovation, all of the asbestos-containing material and PCB may be disturbed and thus must be removed and properly disposed of prior to any other construction work in the affected areas, as discussed later in this report. The types of materials found and their condition and locations are summarized below.

Most of the asbestos-containing materials present a more immediate exposure hazard for anyone initially working in the buildings, since these materials were exposed and were or could be easily disturbed/damaged during renovation, demolition, or in some locations, any activity. For PCBs, the materials were well contained, and no obvious leakage was noted. As with asbestos-containing materials, the PCBs and the associated equipment must be properly handled and disposed.

House of Hurwitz, 571 Washington Street

Much of the material identified was asbestos-containing pipe insulation in the basement. Most of these pipes were running along the ceiling and were in fairly good condition.

One insulated pipe riser was found on the first floor as well as three insulated hard pipe joints near the ceiling. This material was all in good condition.



House of Hurwitz, 571 Washington Street (Continued)

On the third floor, one riser was observed and two cans of asbestos roof tar were found near the exit to the roof.

On all three floors, 9x9-in. and 12x12-in. vinyl asbestos floor tile was found and observed to be in good condition.

PCB-containing light fixtures were found throughout the building: approximately 120 total.

Sallinger, 565 Washington Street

Most of the material identified in the basement, back stairwell, and first floor was asbestos-containing pipe insulation. This material was in very poor condition with significant damage to approximately fifty percent of the insulation. Also found on the first floor was 12x12-in. vinyl asbestos floor tile which was in good condition.

On the second, third, and fourth floors, the material found was asbestos-containing pipe insulation and 9x9-in. vinyl asbestos floor tile. All of this material was significantly damaged.

Asbestos-containing roof tar was also noted.

PCB-containing light fixtures were found throughout the building: approximately 75 total.

State II

The entire theatre area was covered with 12x12-in. vinyl asbestos floor which was in fairly good condition.

Behind the screen, in a storage area of the building, asbestos-containing pipe insulation was observed to be in fairly good condition.

CB Lounge

In the CB Lounge basement which services the lounge, a store, and the State II, a large portion of the material found was asbestos-containing pipe insulation. Much of this material has fallen from the pipes, mixing with other debris, and has



contaminated the floor of the basement. A large portion of the floor was covered with 9x9-in. vinyl asbestos floor tile, which is also significantly damaged.

All of the material found in the clothes store was 9x9-in. vinyl asbestos floor tile and was observed to be in fairly good condition.

The material found in the bar on the second floor as well as the back stairwell consisted of asbestos-containing pipe insulation. This material was noted to be significantly damaged.

On the third, through the sixth floors, asbestos-containing pipe insulation was observed and was noted to be in good condition on all but the fifth floor. The 9x9-in. floor tile also found on these floors was significantly damaged on the third and sixth floors.

In the steam tunnel, which runs parallel to Avery Street and directly back from this basement, all of the material found was asbestos-containing pipe insulation and was noted to be significantly damaged. The tunnel appeared to continue on in three different directions; however, all three have been blocked-off and were not accessible.

Asbestos-containing roof tar was also noted.

PCB-containing light fixtures were found throughout the building: approximately 65 total.

#### State I, 625 Washington Street

In the basement of the State I theatre, asbestos-containing pipe insulation was observed throughout and a large amount was assumed behind a wall. In the Men's Room, 9x9-in. vinyl asbestos floor tile, in good condition, was observed.

In the lobby, 12x12-in. vinyl asbestos floor tile was found and noted to be in good condition.

In the theatre, the rest rooms contained 9x9-in. vinyl asbestos floor tile which was significantly damaged.



State I, 625 Washington Street (cont.)

Behind the stage, more asbestos-containing pipe insulation was observed, which was significantly damaged. Also observed was a cork insulated ceiling that was asbestos-containing and was damaged.

State I, Other Store

In the store, 9x9-in. and 12x12-in., vinyl asbestos floor tile was observed and was significantly damaged.

Evans Building

In the Foyer, 9x9-in. asbestos-containing floor tile was observed and was in good condition.

In the basement hallway, crawlspace, barrel room, and boiler room, asbestos-containing pipe and tank insulation was observed and was all in very poor condition. The ceiling plaster, which in many places had delaminated and contaminated the floor, was also found to be asbestos- containing.

Asbestos-containing pipe insulation and 9x9-in. vinyl asbestos floor tile were found in room 201 which was being used as an office at the time of this survey. All the material was in good condition.

In room 205, which is being used as an apartment, 9x9-in. and 12x12-in. vinyl asbestos floor tile was found and was in good condition. Much of this was assumed to be present under carpeting.

9x9-in. vinyl asbestos floor tile was also found in the second floor hallway and rest room as well as Room 202. This material was all in good condition.

In Rooms 313 through 315 including the third floor hallway, 9x9-in. vinyl asbestos floor tile was found and was all in good condition.

Asbestos-containing linoleum was observed in room 310 and was in good condition.





Evans Building (cont.)

In Rooms 302, 303, 304, 308, and 309, 9x9-in. vinyl asbestos floor tile was observed to be in good condition. Rooms 307, 301 and 305 were not accessible and were assumed to contain the same.

9x9-in. vinyl asbestos floor tile was observed in the fourth, fifth, and sixth floor hallway. All of this material was noted to be in good condition.

In Rooms 403 through 405, 406 through 408, 415 and 401, 9x9-in. vinyl asbestos floor tile was noted throughout and was all in good condition. Rooms 409, 402, and 414, were not accessible and were assumed to contain the same.

Rooms 504 through 509 (the advertising department), and 501 and 502 all contained 9x9-in. vinyl asbestos floor tile in good condition. Room 515 was not accessible and was assumed to contain the same.

In Rooms 603, 604, 608, 611, and 612, 9x9-in. vinyl asbestos floor tile and asbestos-containing linoleum were found throughout and was all in good condition. Rooms 614, 615, 609, 601, and 602 were all not accessible and were assumed to contain the same.

Twenty-two asbestos-containing fire doors were found throughout the building and were all in fairly good condition.

Asbestos-containing roof tar was also noted.

PCB-containing light fixtures were found throughout the building: approximately 103 total, including those in the My Tan Video

My Tan Video and Viet Nam Coffee House

In the basement of the video store, asbestos-containing pipe insulation was observed and was noted to be significantly damaged.

On the first floor of the video store and in the coffee house, 12x12-in. vinyl asbestos floor tile was found to be in good condition.



Viet Nam Market

All of the material found in the basement was asbestos-containing pipe insulation and was all significantly damaged.

On the first floor, 12x12-in. and 9x9-in. vinyl asbestos floor tile as well as asbestos-containing linoleum was found and was all significantly damaged.

611 Washington

Asbestos-containing pipe, boiler, and tank insulation were all found in the basement/boiler room and were all significantly damaged. Debris from these systems has contaminated a large section of the floor. The ceiling, which is also asbestos-containing, was in very poor condition as well and its deterioration has contributed to the contamination of the floor.

The stairwell leading to this boiler room had several risers with asbestos-containing pipe insulation. Most of this insulation has been broken-off and has contaminated the stairwell and the floor beneath. There was a crawlspace beneath the stairwell that could not be accessed.

In the Goodwill Basement, asbestos-containing pipe insulation was found throughout, especially in the back half. This material was all significantly damaged and has contaminated the floor throughout most of the basement (See Picture No. 1).

Most of the material in the Goodwill store is 12x12-in. vinyl asbestos floor tile in good condition. Also found was asbestos-containing pipe insulation which was slightly damaged. In the back storage area, asbestos-containing linoleum was found and was significantly damaged.

In the front lobby, 12x12-in. vinyl asbestos floor tile was also found and was in good condition.

Asbestos-containing pipe insulation, 9x9-in. and 12x12-in. vinyl asbestos floor tile were found in the I.U. Bloom Inc. furniture company on the second floor. This material was in good condition.

In the Chrissy Sportswear Department on the third floor, 12x12-in. and 9x9-in. vinyl asbestos floor tile was found to be in good condition.



Project No. 5780

HYGEIA INC.

Building Name: 611 Washington Street



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#1: Goodwill Basement - damaged pipe insulation

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In the hallways of floors three through six, slightly damaged asbestos-containing pipe insulation was noted along the entire length of each hallway. Also found in each hallway was 9x9-in. vinyl asbestos floor tile in good condition. A fire door, in good condition, was found outside Room 308.

On the fourth floor, in the NHC Department and Jo Jo Sportswear, asbestos-containing pipe and pipe joint insulation was observed. The joint insulation was in good condition; however, the pipe insulation was slightly damaged. Also found in Jo Jo Sportswear was 9x9-in. vinyl asbestos floor tile in good condition.

In Room 504, asbestos-containing pipe insulation was observed and was significantly damaged.

In the Melina Sportswear Department, asbestos-containing pipe insulation was observed throughout and was noted to be in fairly good condition.

On floors one through six, asbestos-containing linoleum was found on all the stairwells and was in good condition.

Asbestos-containing roof tar was also noted.

PCB-containing light fixtures were found throughout the building: approximately 339 total.

#### St. Francis House Boiler Room

Asbestos-containing pipe, tank, boiler, and breeching insulation were all found in the boiler room and were all significantly damaged. Debris from all of these systems was scattered throughout two to four inches of water covering the entire floor of the room (See Picture Nos. 7,8,9,10 and 11).

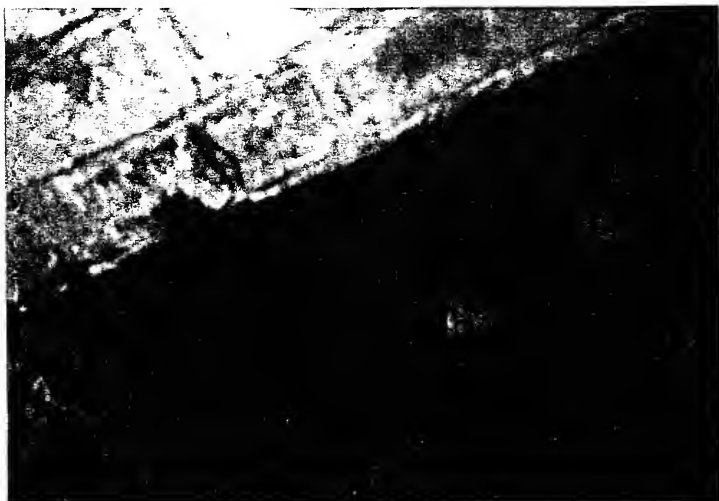
An asbestos-containing fire door opened to a large storage room adjacent to the boiler room which contained approximately nine hundred cubic feet of contaminated trash.

Running parallel to Washington Street and towards the remainder of the parking lot behind St. Francis House, was a steam tunnel housing asbestos-containing pipe and tank insulation. This insulation was significantly damaged, and its deterioration had contributed to several hundred square feet of





Building Name: Boiler Room and Tunnels off St. Francis House



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#1: View into pipe chase below tunnel from St. Francis House to Boiler Room



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#2: View into pipe chase below tunnel from St. Francis House to Boiler Room

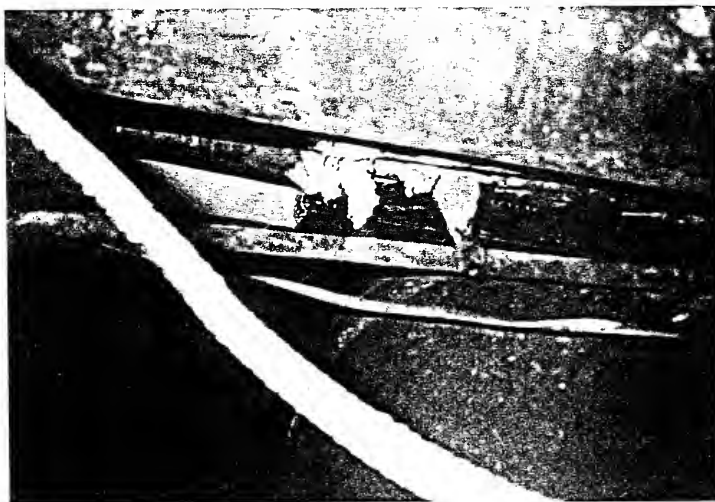


**Building Name:** Boiler Room and Tunnels off St. Francis House



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#3: Contaminated debris - tunnel from St. Francis House to Boiler Room

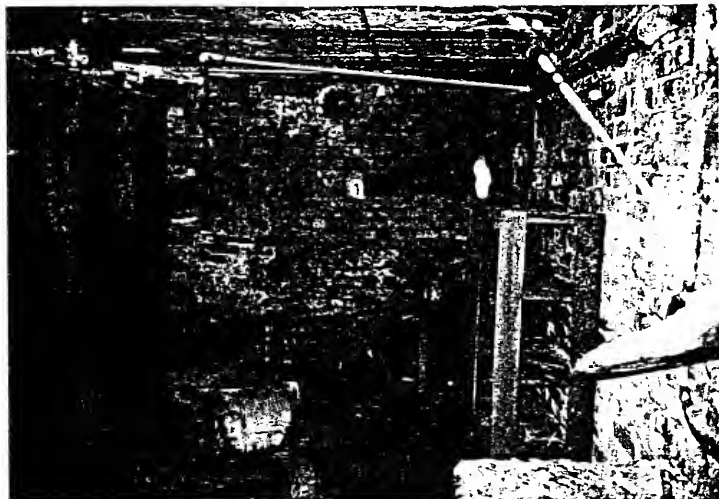


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#4: Significantly damaged pipe insulation - tunnel from St. Francis House to Boiler Room

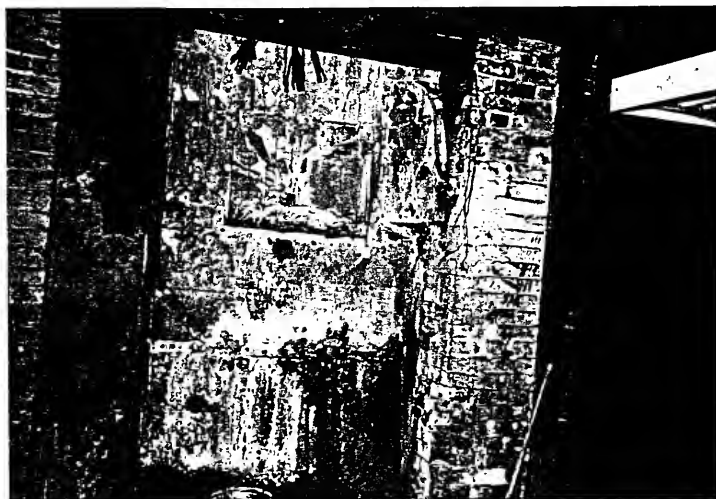


Building Name: Boiler Room and Tunnels off St. Francis House



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#5: Contaminated debris in storage room by entrance to Boiler Room

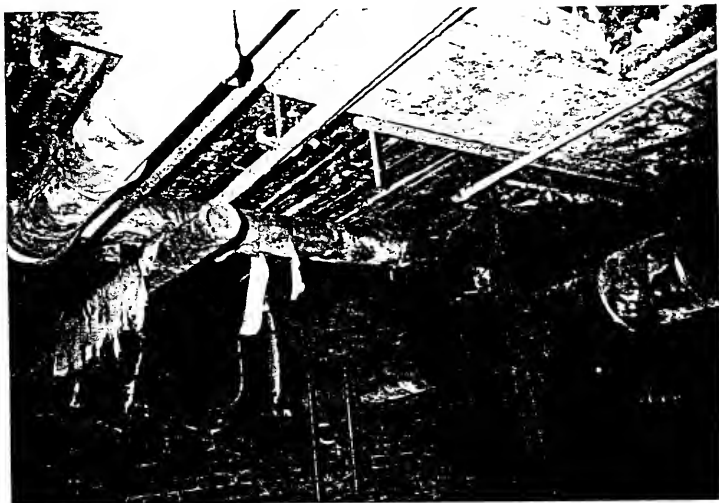


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#6: Sealed door in Boiler Room - No Access

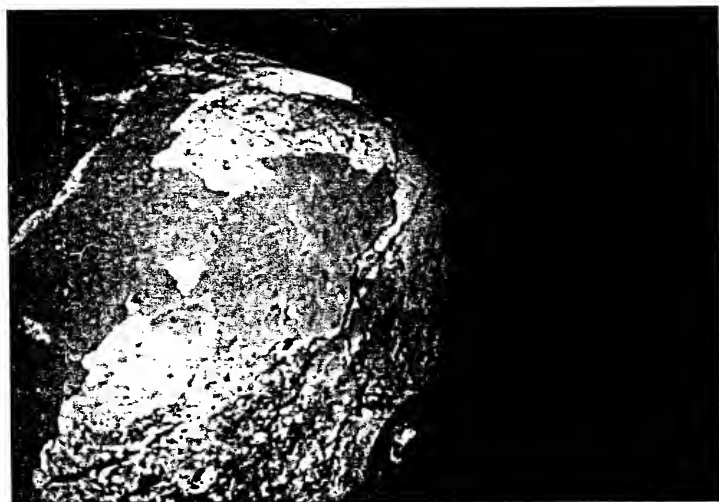


**Building Name:** Boiler Room and Tunnels off St. Francis House



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#7: Significantly damaged pipe insulation - Boiler Room



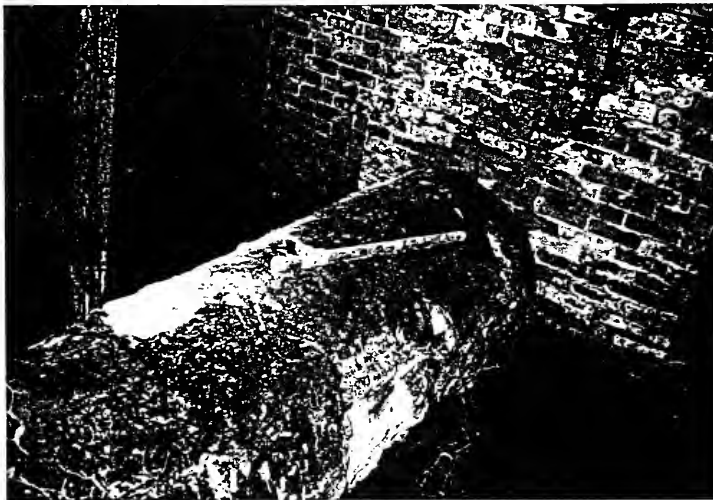
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#8: Significantly damaged tank insulation - Boiler Room





**Building Name:** Boiler Room and Tunnels off St. Francis House



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#9: Significantly damaged tank insulation - Boiler Room

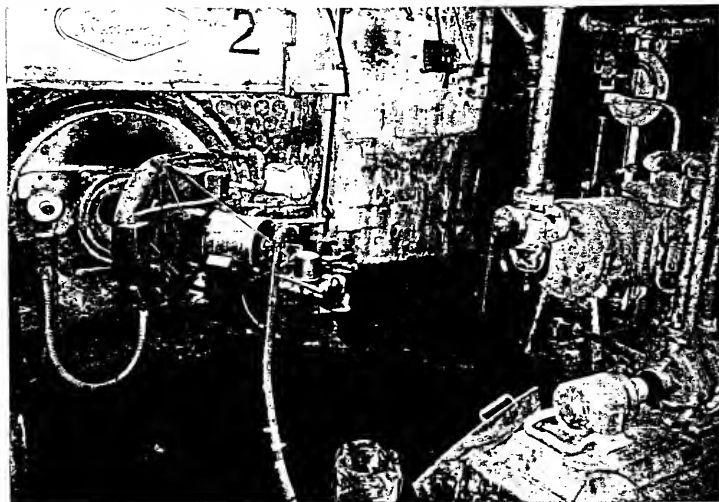


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#10: Boilers with significantly damaged insulation - Boiler Room



Building Name: Boiler Room and Tunnels off St. Francis House



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#11: Boilers with significantly damaged insulation - Boiler Room



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#12: Significantly damaged tank insulation - steam tunnel to right of Boiler Room

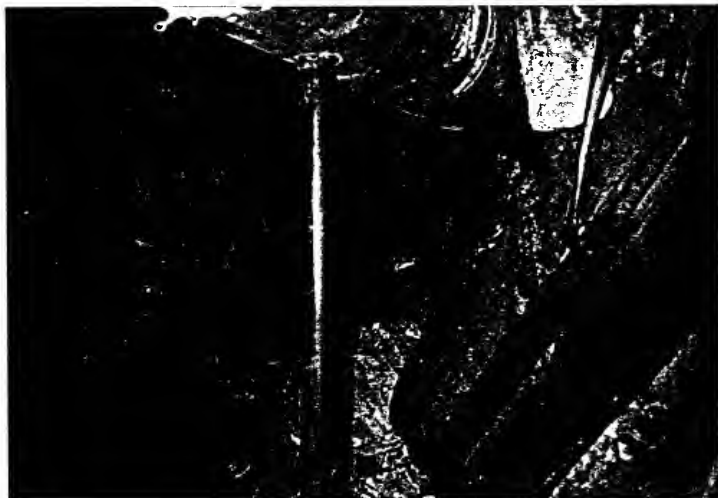


Building Name: Boiler Room and Tunnels off St. Francis House



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#13: Significantly damaged tank insulation - steam tunnel to right of Boiler Room



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#14: Blocked end of steam tunnel to right of Boiler Room: no access



St. Francis House Boiler Room (cont.)

debris on the tunnel floor. After approximately one hundred feet, the tunnel had caved-in and the remainder of it was not accessible (See Picture Nos. 1,2,3,4,12,13, and 14).

Another small room adjacent to the boiler room contained contaminated debris throughout (See Picture No. 5).

Two very large doors on the St. Francis side of the boiler room were permanently barricaded and therefore not accessible (See Picture No. 6).

Liberty Book Store

In the basement, the only material found was asbestos-containing linoleum. This material was in good condition.

12 x12-in. vinyl asbestos floor tile, in good condition, was found throughout the second floor.

Haymarket

Significantly damaged asbestos-containing pipe insulation was found throughout the basement. Also observed was a large pizza oven which housed asbestos-containing insulation. This material was in good condition.

Avery Hotel

In the boiler room of the sub-basement, asbestos-containing pipe insulation, and tank insulation were all found and were all significantly damaged. Due to the hazardous nature of a large portion of this room, which contained two feet of water, a doorway leading out of the boiler room on the opposite side, could not be accessed (See Pictures 17 and 18).

The remainder of the sub-basement floor was covered with several inches of wet sand with contaminated debris scattered throughout. Severely damaged asbestos-containing pipe insulation was observed in several locations as well (See Pictures 19 and 20).





Avery Hotel (cont.)

In the basement of the Avery, approximately one hundred feet of insulation remained on the pipes. Several hundred remaining feet of insulation had fallen and contributed to approximately four thousand cubic feet of contaminated debris. This debris was scattered on the floor, on old air conditioners, broken toilets, broken sinks, and on other various items stored in this basement (See Pictures 21 through 39).

The main lobby contained 9x9-in. vinyl asbestos floor tile. This material, as well as a "Transite" radiator chase found in the lobby, was significantly damaged.

The women's room in the Piano Bar contained asbestos-containing pipe insulation in good condition.

An asbestos-containing acoustical ceiling was observed in the Piano Bar and was significantly damaged (See Picture No. 40).

In the Avery second entrance, significantly damaged asbestos-containing duct insulation and 9x9-in. vinyl asbestos floor tile was observed. The deterioration of the duct insulation has contaminated several hundred square feet of debris throughout the floor (See Picture Nos 1,2,3,4, and 5).

The Avery second entrance basement contained the same duct insulation, and has contributed to approximately the same amount of debris on the floor. Also in the basement, asbestos-containing pipe insulation and 9x9-in. vinyl asbestos floor tile was found. All this material was significantly damaged (See Picture Nos. 6 through 16).

In the back section (Rooms 09 through 16) of the first five floors of the hotel, including the safe room on the second floor, the kitchen on the third floor, and Room 208, asbestos-containing pipe insulation was found and was all significantly damaged. Much of this material was on the floor in the third floor Kitchen. Also found in most of these areas was 9x9-in. vinyl asbestos floor tile in very poor condition (See Picture Nos. 42 through 45).

Asbestos-containing pipe insulation was also found in the corridors of the back section (all floors). All of this material was significantly damaged as well.



Avery Hotel (cont.)

On all floors (2-11), asbestos-containing pipe insulation was observed in chases between each floor. Within these chases, this material has remained in fairly good condition (See Pictures No. 46-49)

9x9-in. vinyl asbestos floor tile was found in the closets of each of the rooms on the second floor (208-201). This material was generally in good condition.

In Rooms 311, 411, 511, ..... 1011, severely damaged pipe insulation was found between the bathroom and main room wall. In most cases, the wall had completely collapsed, spreading debris on the floor of each room (See Picture Nos. 52-54).

A small amount of asbestos-containing pipe insulation was observed in Rooms 608, 709, 815, 808, 908, 906, and 1014. All of this material was damaged to some degree.

On the ninth and tenth floors, asbestos-containing pipe insulation had been stripped from the pipes and was scattered across the hallways and some rooms. This has resulted in approximately twelve hundred square feet of debris (See Pictures Nos. 55-60).

In a small storage shack on the roof, asbestos-containing pipe insulation was found. This material was damaged.

Twenty fire doors were located throughout the building and on the roof. Most of these were damaged (See Picture No. 41).

Asbestos-containing roof tar was also noted.

PCB-containing light fixtures were found throughout the building: approximately 10 total.



Building Name: Avery Hotel



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#1: View of first floor lounge showing contaminated ceiling debris on floor

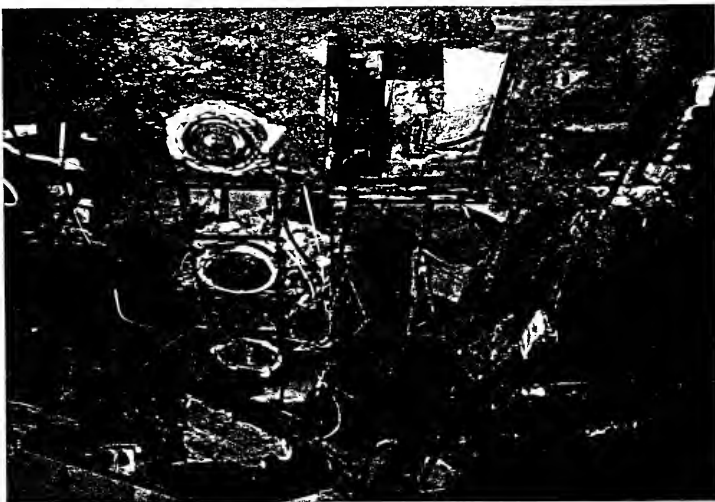


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#2: View of water damaged ceiling of first floor lounge



Building Name: Avery Hotel



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#3: View of water damaged duct insulation and ceiling - first floor lounge



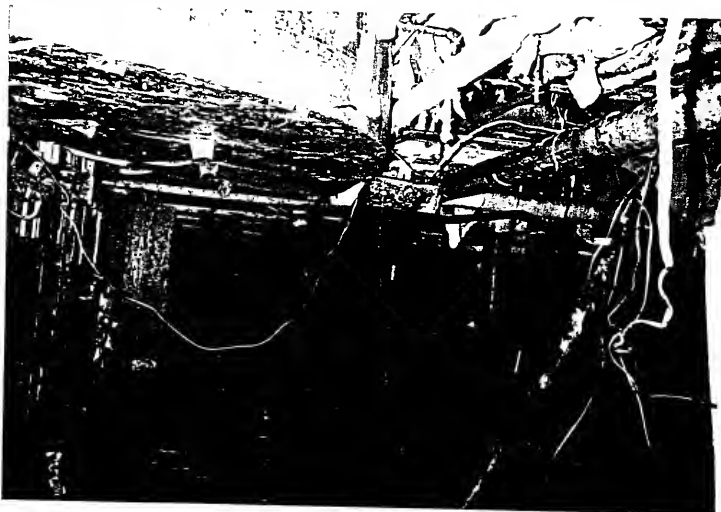
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#4: View of water damaged duct insulation and ceiling - first floor lounge





Building Name: Avery Hotel



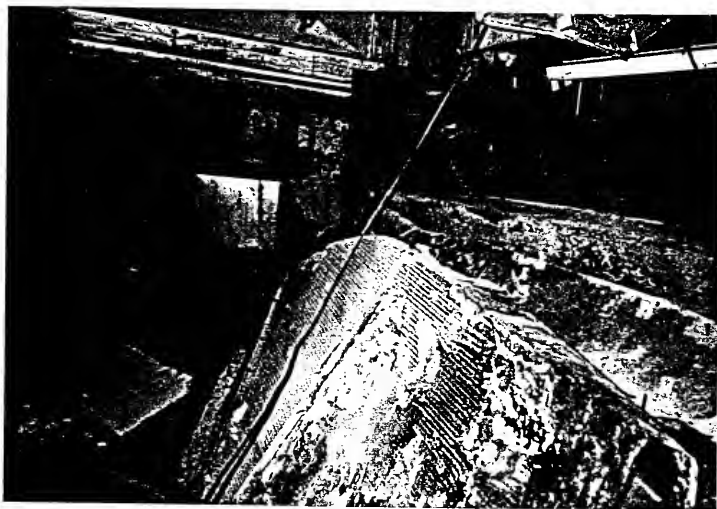
#7: View of back section of basement under first floor lounge



#8: Significantly damaged duct insulation - basement of first floor lounge



Building Name: Avery Hotel



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#9: Contaminated debris and demolished insulated ductwork on floor - basement of first floor lounge



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#10: Contaminated debris - basement of first floor lounge



Building Name: Avery Hotel



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#11: Contaminated debris - basement of first floor lounge



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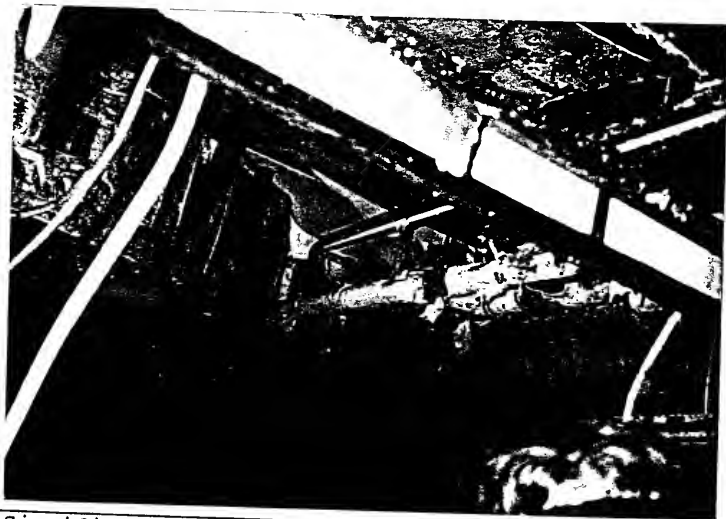
#12: Contaminated debris - basement of first floor lounge



Building Name: Avery Hotel



#13: Contaminated debris - basement of first floor lounge



#14: Significantly damaged pipe and duct insulation - basement of first floor lounge



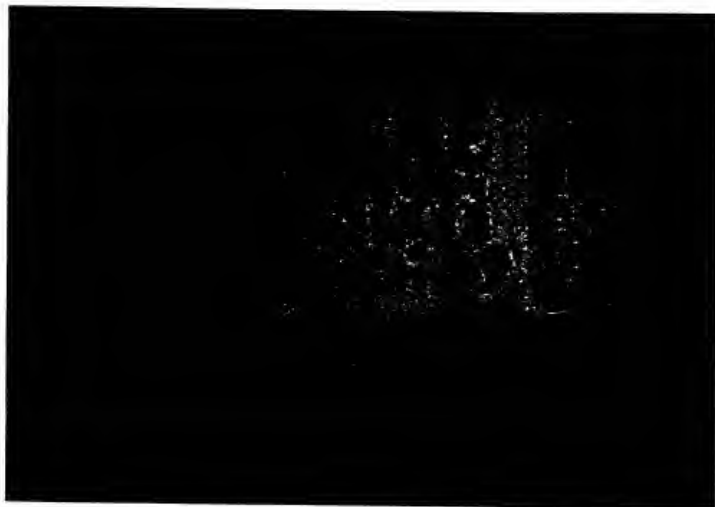


Building Name: Avery Hotel



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#15: Contaminated debris - basement of first floor lounge

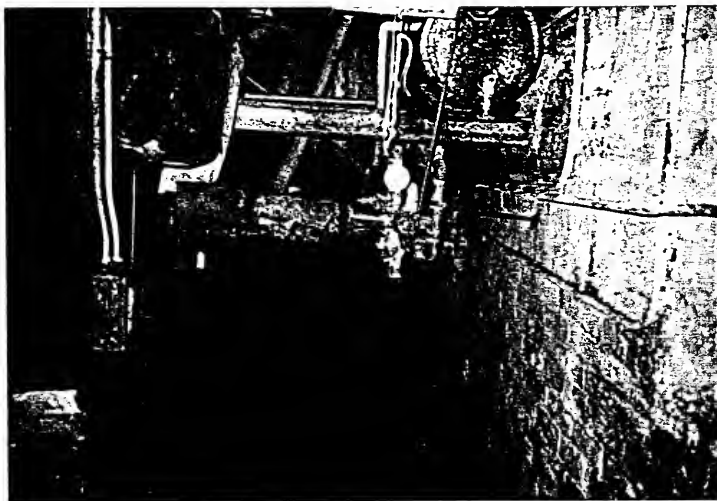


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#16: Significantly damaged duct insulation - basement of first floor lounge

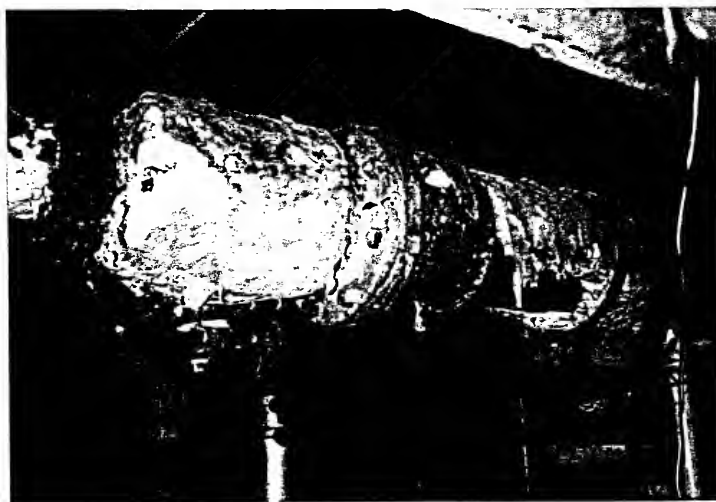


Building Name: Avery Hotel



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#17: View of Boiler Room showing tank and flooded area - sub-basement



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#18: Significantly damaged pipe insulation - sub-basement



Building Name: Avery Hotel



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#19: Collapsed wall and contaminated debris - sub-basement

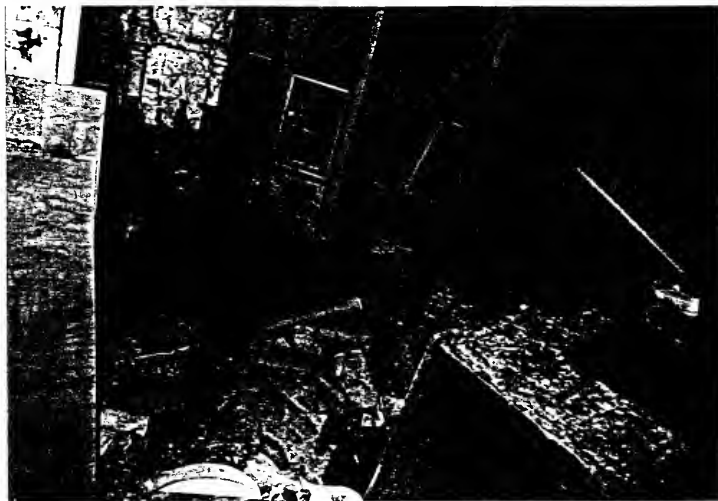


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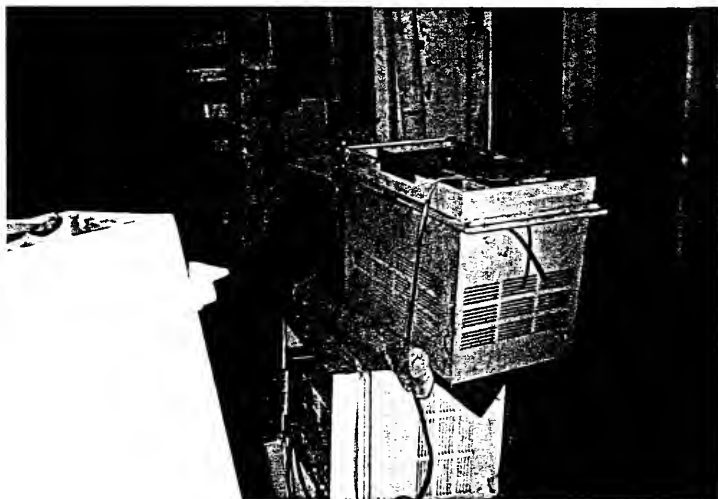
#20: Significantly damaged pipe insulation - sub-basement



Building Name: Avery Hotel



#21: Air conditioners, pipe insulation, and contaminated debris -  
basement



#22: Air conditioners, pipe insulation, and contaminated debris -  
basement



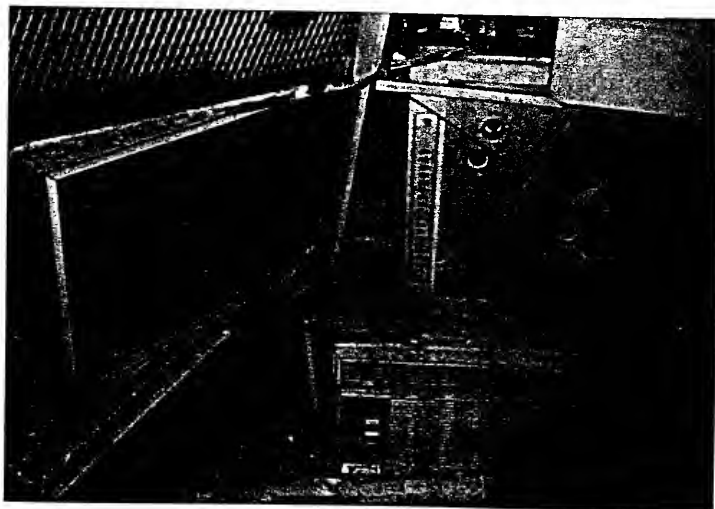


Building Name: Avery Hotel



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#23: Air conditioners, pipe insulation and contaminated debris -  
basement



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#24: Air conditioners, pipe insulation and contaminated debris -  
basement



Building Name: Avery Hotel



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#25: Significantly damaged pipe insulation - basement

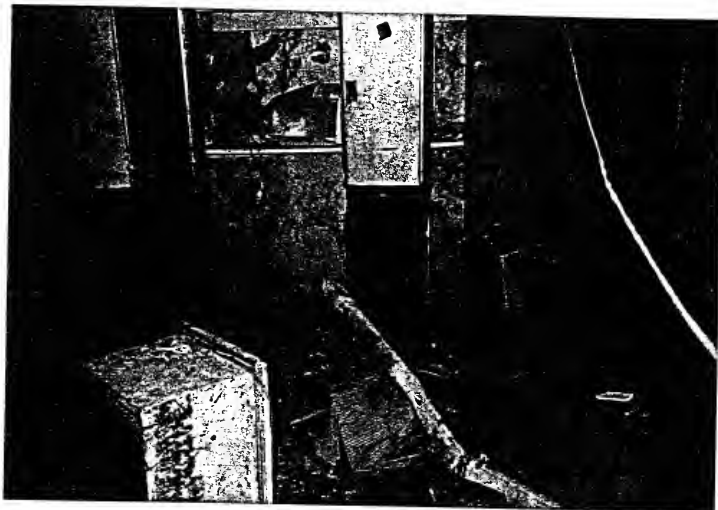


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#26: Contaminated debris - basement



Building Name: Avery Hotel



#27: Contaminated debris - basement



#28: Contaminated debris - basement



Building Name: Avery Hotel



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#29: Contaminated debris - basement



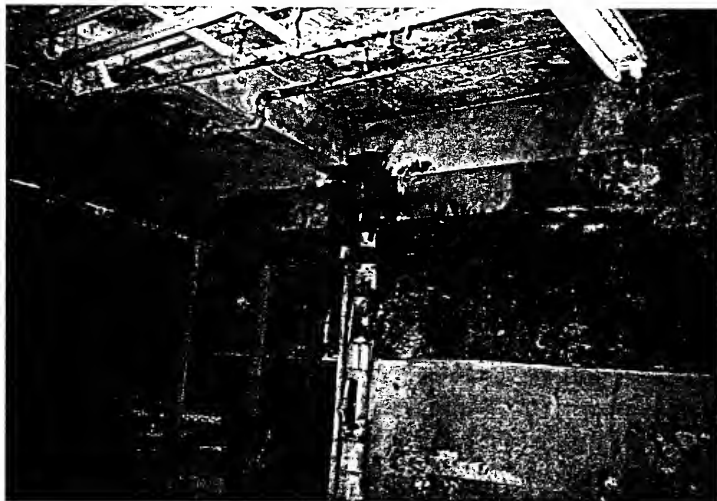
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#30: Contaminated debris - basement



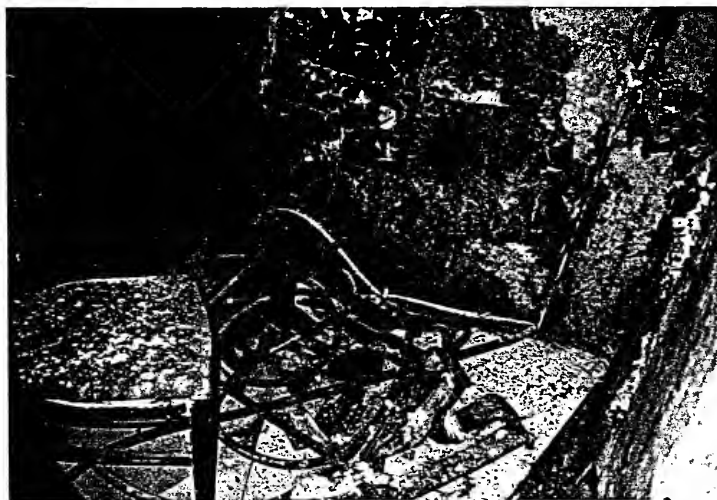


Building Name: Avery Hotel



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#31: Significantly damaged pipe insulation - basement



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#32: Contaminated debris - basement



Building Name: Avery Hotel



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#33: Significantly damaged pipe insulation and contaminated debris - basement



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#34: Asbestos flexboard - basement

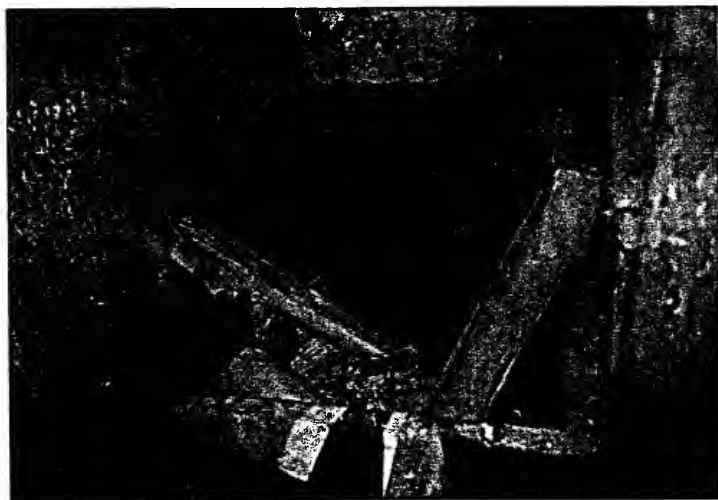


Building Name: Avery Hotel



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#35: Contaminated debris - basement

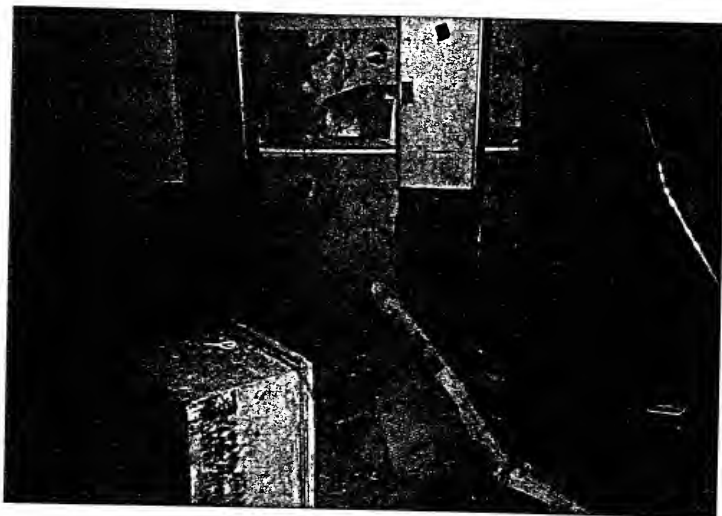


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#36: Contaminated debris - basement



Building Name: Avery Hotel



#37: Contaminated debris - basement

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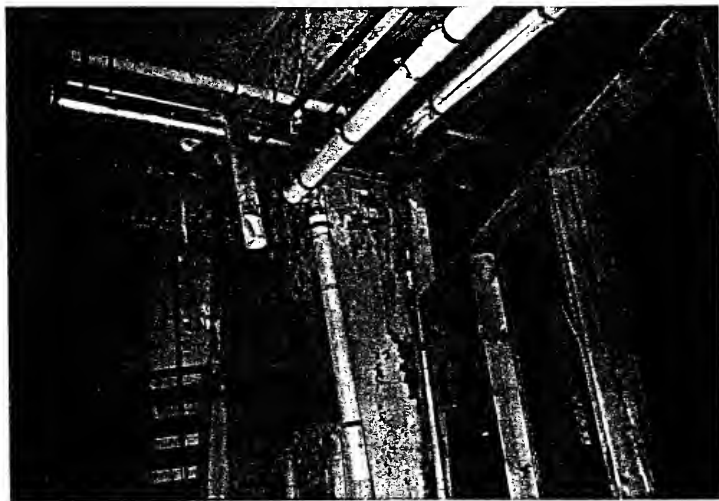
#38: Contaminated debris - basement

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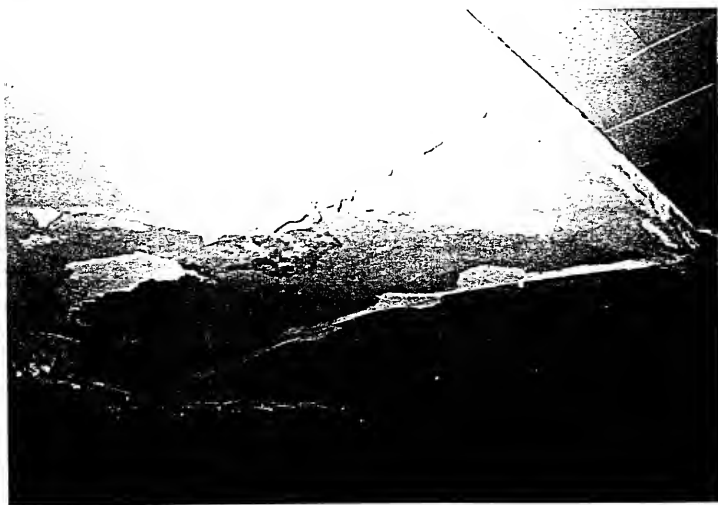


Building Name: Avery Hotel



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#39: Significantly damaged pipe insulation - basement

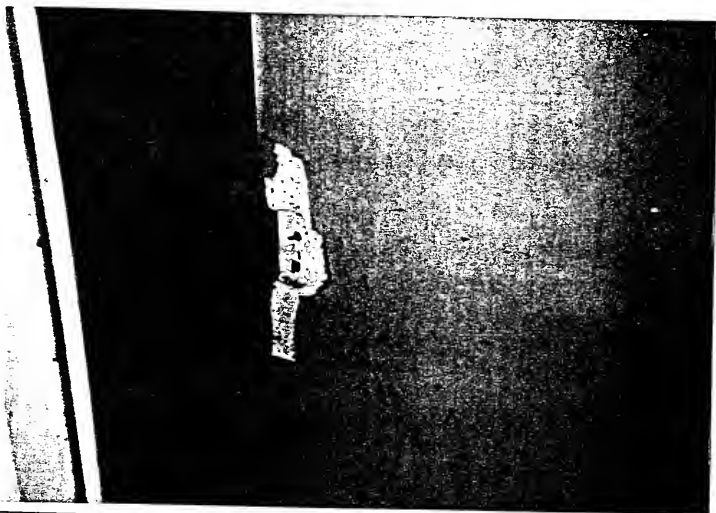


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#40: Significantly damaged acoustical ceiling plaster - first floor

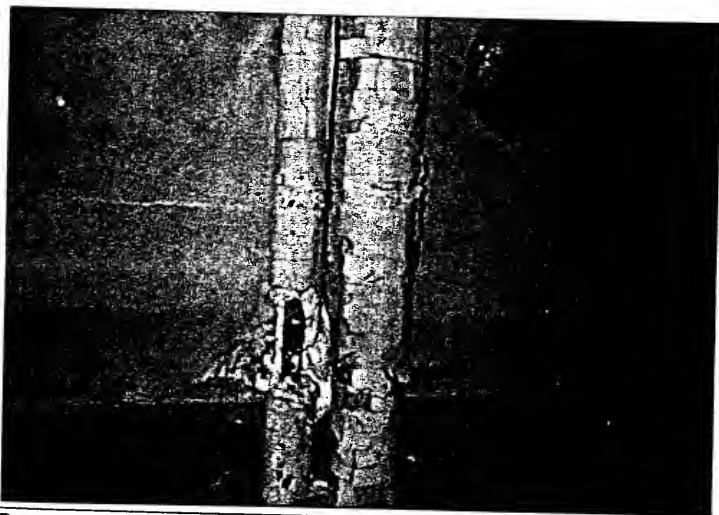


Building Name: Avery Hotel



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#41: Damaged fire door - second floor



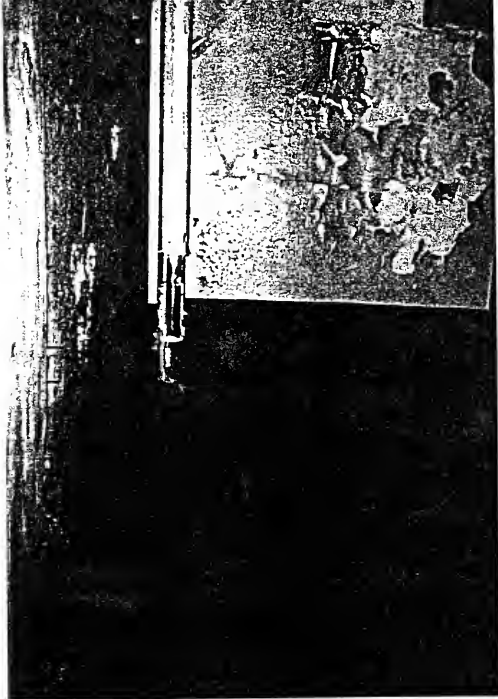
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#42: Damaged pipe insulation - back section, third floor



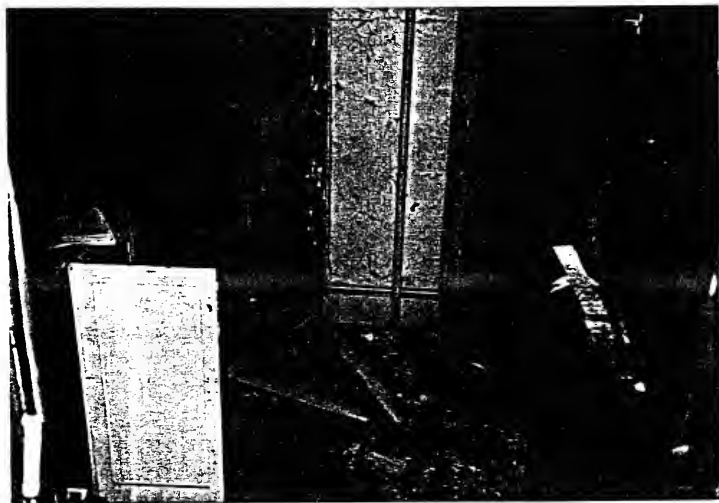
Project No. 5780

Building Name: Avery Hotel



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#43: Damaged pipe insulation - back section, third floor

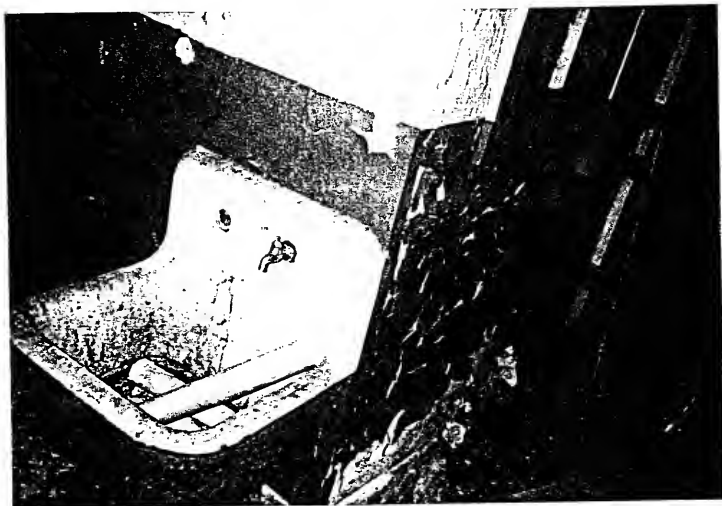


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#44: Contaminated debris - back section, third floor

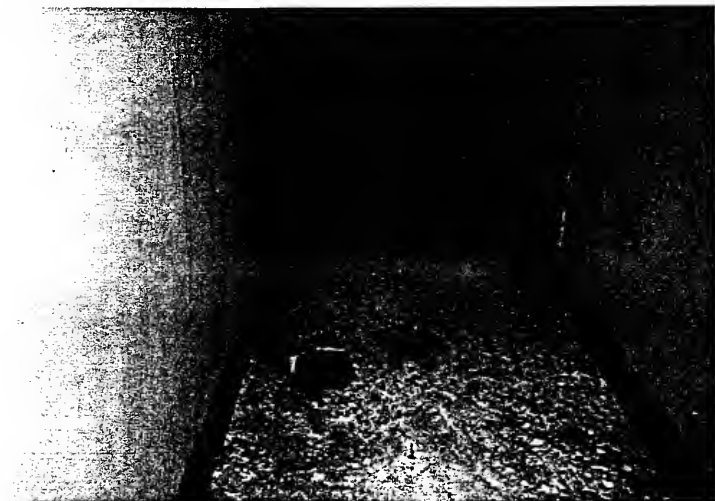


Building Name: Avery Hotel



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#45: Contaminated debris - back section, third floor



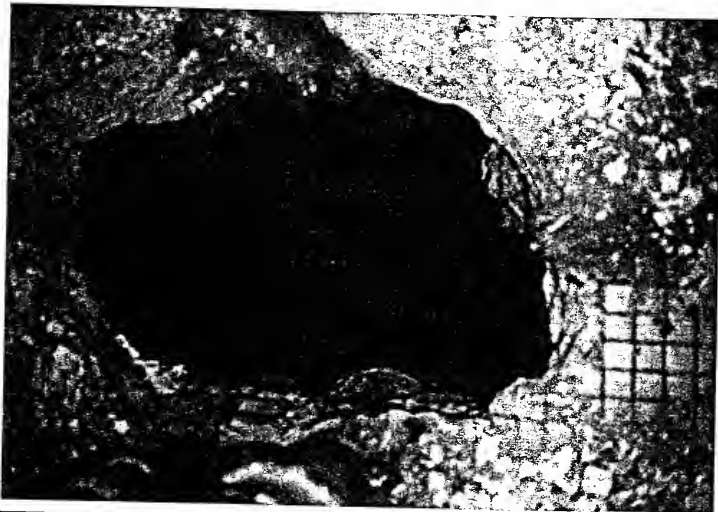
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#46: Hole in floor opening into chase - third floor



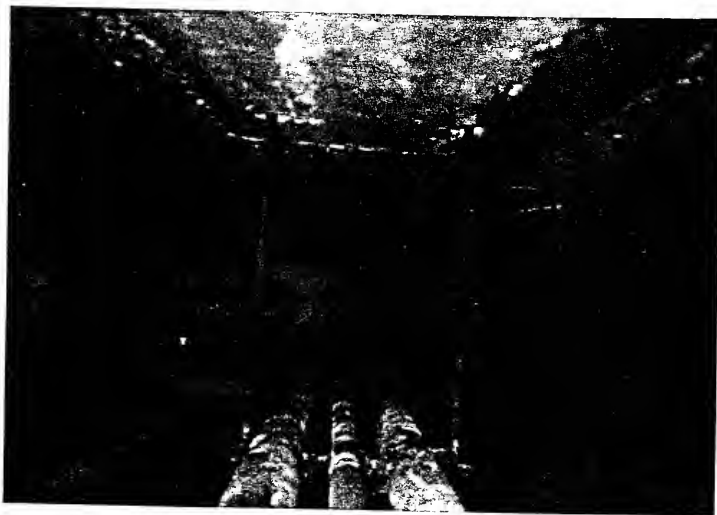


Building Name: Avery Hotel



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#47: View through hole in floor into chase - third floor



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#48: View along chase between second floor ceiling and third floor floor



Building Name: Avery Hotel



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#49: View along chase between second floor ceiling and third floor floor

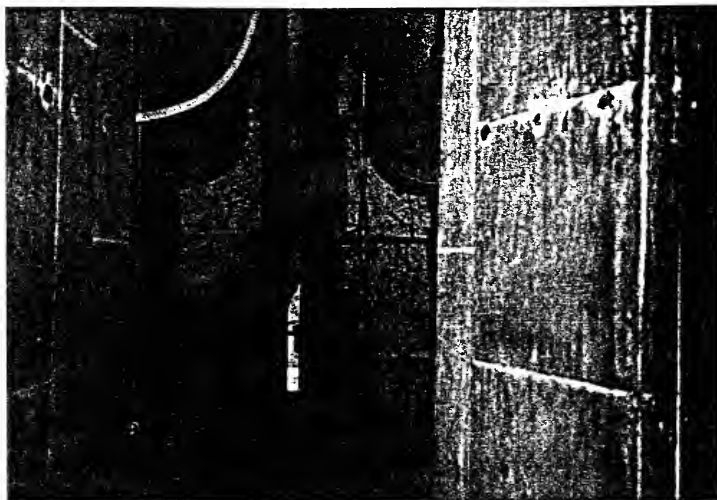


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#50: View upwards in vertical chase between rooms



Building Name: Avery Hotel



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#51: View into vertical chase between rooms



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#52: Collapsed chase wall - back section Avery



Building Name: Avery Hotel



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#53: Collapsed chase wall - back section Avery



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#54: Collapsed chase wall - back section Avery





Building Name: Avery Hotel



#55: View of contaminated debris in hall - ninth floor



#56: Contaminated debris - ninth floor



Building Name: Avery Hotel



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#57: Contaminated debris - ninth floor



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#58: Contaminated debris - ninth floor



Building Name: Avery Hotel



#59: Contaminated debris - tenth floor



#60: Contaminated debris - tenth floor



Paramount

Asbestos-containing pipe insulation was observed above the ceiling in the main lobby of this theatre. The pipes were approximately fifteen feet high and the insulation was in good condition.

An asbestos-containing cement insulation was found covering a large air handling unit in the back room of the theatre. This material was in good condition.

The sub-basement of the Paramount was under several feet of water and was therefore not accessible.

Asbestos-containing roof tar was also noted.

Note:

Some sections of the buildings, for example the steam tunnels in the St. Francis Sub-basement and the basement under State II, were blocked or cemented off and could not be accessed. These tunnels may lead to other spaces, under parking lots or under streets, that were also inaccessible. Considering that other buildings stood at this site at one time, this possibility is likely. Depending on when the demolition of the buildings occurred, these spaces, and possibly tunnels, may also contain asbestos materials. If these spaces and/or tunnels exist, they more than likely do not have PCB-containing equipment in them, as these items would have been removed during demolition activities. However, either type of material may be uncovered during future demolition and excavating activities, and should be anticipated.





RECOMMENDATIONS

Because all of the buildings included in this survey are scheduled for demolition or significant renovation, removal of all asbestos-containing materials and PCB-containing equipment should occur prior to any demolition/renovation work in the buildings.

Massachusetts Department of Labor and Industries (DLI) title 453 CMR 6.14(2)(C) 9 states that "the provisions of licensure, certification, notification, work practices, and disposal requirements of 453 CMR 6.00 shall apply to any planned demolition of any facility containing friable asbestos material". According to 453 CMR 6.14(2)(C) 8, the same requirements shall apply to asbestos cement materials that are broken. Therefore, prior to any demolition, all the friable asbestos-containing products such as pipe, tank, boiler, and breeching insulation and all asbestos cement containing products such as "Transite", will have to be removed by a licensed asbestos contractor in accordance with all applicable Federal, State and local requirements.

In addition, although no regulatory agency requires the removal of non-friable asbestos material such as vinyl asbestos floor coverings and roofing materials, the Massachusetts Department of Environmental Quality Engineering (DEQE), requires that all demolition debris with damaged asbestos-containing floor covering materials be disposed of as hazardous waste. Therefore, HYGEIA INC. strongly recommends that all of this material be removed prior to demolition as well.

At present all of the PCB-containing materials noted during the survey appeared to be well contained. To prevent any possible spill of the PCBs, the equipment including the light fixture ballasts must be removed prior to the demolition/renovation activity.

HYGEIA INC. also recommends that a detailed specification and contract be written before any abatement action is taken. Once a contractor is selected, HYGEIA INC. recommends that an industrial hygiene firm monitor the removal process to ensure that the work is carried out completely, as detailed in the specification, and according to all Federal, State and local requirements.



As has been discussed, significant and in some locations extensive contamination of building spaces has occurred. In those areas, a hazard of exposure to asbestos-containing materials is immediate to any person within those areas. Therefore, HYGEIA INC. also recommends that until the asbestos-containing materials are removed from the areas, and the spaces are deemed safe to enter without protective equipment, no person should enter and work in those areas without proper protective equipment. Those areas include the basement of the Avery, the St. Francis Sub-Basement, and the Evans Building. Certain other areas in the buildings, such as some of the upper floors in the Hotel Avery should also be considered hazardous to enter without appropriate protective equipment.



SUMMARY

<u>Building Name</u>	<u>Material Identified</u>	<u>Recommendation</u>
House of Hurwitz, 571 Washington St.	Asbestos-containing pipe insulation, asbestos-containing pipe joint insulation, vinyl asbestos floor tile, roof tar	Remove prior to demolition
Sallinger, 565 Washington St.	Asbestos-containing pipe insulation, vinyl asbestos floor tile, roof tar	Remove prior to demolition
State II	Asbestos-containing pipe insulation, vinyl asbestos floor tile	Remove prior to demolition
CB Lounge (including steam tunnel)	Asbestos-containing pipe insulation, vinyl asbestos floor tile, contaminated debris, roof tar	Remove prior to demolition
State I, 625 Washington Street	Asbestos-containing pipe insulation, vinyl asbestos floor tile, asbestos-containing cork ceiling tiles, roof tar	Remove prior to demolition
State I, Other Store	Vinyl asbestos floor tile	Remove prior to demolition
Evans Building	Asbestos-containing pipe, boiler, tank insulation and ceiling plaster, vinyl asbestos floor tile, fire doors, linoleum, contaminated debris, roof tar	Remove prior to renovation



SUMMARY (Continued)

<u>Building Name</u>	<u>Material Identified</u>	<u>Recommendation</u>
My Tan Video	Asbestos-containing pipe insulation, vinyl asbestos floor tile	Remove prior to renovation
Viet Nam Market	Asbestos-containing pipe insulation, vinyl asbestos floor tile	Remove prior to renovation
611 Washington	Asbestos-containing pipe, boiler, tank insulation, vinyl asbestos floor tile, linoleum, roof tar	Remove prior to demolition
St. Francis Sub-basement	Asbestos-containing pipe, boiler, tank insulation, fire doors, contaminated debris	Remove prior to demolition
Liberty Book Store	Vinyl asbestos floor covering	Remove prior to demolition
Haymarket	Asbestos-containing pipe insulation, pizza oven insulation	Remove prior to demolition
Avery Hotel	Asbestos-containing pipe, boiler, tank insulation, contaminated debris, acoustical ceiling, "Transite" chase, vinyl asbestos floor tile, fire doors, roof tar	Remove prior to demolition
Paramount	Asbestos-containing pipe insulation, cement air unit insulation, roof tar	Remove prior to renovation





PART THREE

## COST ESTIMATE OF RECOMMENDATIONS

It is estimated that the total cost to conduct the recommended asbestos abatement activities and PCB removal is approximately \$ 5-7 million. This includes all of the areas inspected. The total amount of each material was multiplied by estimated current market unit prices for removal. A factor of 2.0 times the estimated sub-total was added to each estimate to account for the difficult conditions of these buildings and additional costs, expected due to increasing insurance, training and certification costs for contractors. Finally, an additional factor of 1.25 times the estimated sub-total was also added to account for intangibles and industrial hygiene/engineering costs.

In some of the areas (e.g. CB Lounge) costs for the removal of debris contaminated by deteriorated materials were also included in the cost estimates, although the debris may not have been initially listed in the inventory in Part One.

TABLE 1A

## Estimated Costs of Asbestos Abatement

Factor of 2.5 (2.0 x 1.25) times estimated sub-total added to each estimate for cost increases due to:

- difficulty in work area preparation
- increased insurance costs
- increased training and certification costs
- intangible costs
- industrial engineer/hygiene services

House of Hurwitz, 571 Washington Street

Vinyl Asbestos Floor Tile, 18,300 sf, @ \$4.50/sf	\$ 82,350.
Pipe Insulation ("Air Cell" and "Magnesia") 605 lf, @ \$20/lf	\$ 12,100.
Pipe Insulation (Tarred Rope), 30 lf, @ \$25/lf	\$ 750.



Project No. 5780

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House of Hurwitz, 571 Washington Street Continued)

Pipe Joint Insulation, 20 J, @ \$50/J	\$ 1,000.
Roof Tar Cans, 2 cans, @ \$50/can	\$ 100.
Roof Tar, 9,000 sf, @ \$6/sf	\$ 54,000.
	<hr/> \$ 150,300.
x 2.5 =	\$ 375,750.

Sallinger, 565 Washington Street

Pipe Insulation ("Air Cell" and "Magnesia"), 335 lf, @ \$20/lf	\$ 6,700.
Vinyl Asbestos Floor Tile, 7,520 sf, @ \$4.50/sf	\$ 33,840.
Fire Door, 1 fire door, @ \$300/fd	\$ 300.
Roof Tar, 3,000 sf, @ \$6/sf	\$ 18,000.
	<hr/> \$ 58,840.
x 2.5 =	\$ 147,100.

State II

Pipe Insulation, 20 lf, @ \$20/lf	\$ 400.
Vinyl Asbestos Floor Tile, 3,000 sf, @ \$4.50/sf	\$ 13,500.
Glued-on Ceiling Tile 400 sf, @ \$3/sf	\$ 1,200.
	<hr/> \$ 15,100.
x 2.5 =	\$ 37,750.



Project No. 5780

HYGEIA INC.

CB Lounge

Pipe Insulation, 3,210 lf, @ \$20/lf	\$ 64,200.
Vinyl Asbestos Floor Tile, 22,300 sf, @ \$4.50/sf	\$ 100,350.
Roof Tar, 10,000 sf, @ \$6/sf	\$ 60,000.
Contaminated Debris, 2,000 cubic feet, @ \$50/cf	\$ 100,000.
	<hr/>
	\$ 324,550.
x 2.5 =	\$ 811,375.

State I, 625 Washington Street

Pipe Insulation, 830 lf, @ \$20/lf	\$ 16,600.
Vinyl Asbestos Floor Tile 2,200 sf, @ \$4.50/sf	\$ 9,900.
Cork Ceiling Tile, 60 sf, @ \$3/sf	\$ 180.
Roof Tar, 3,000, @ \$6/sf	\$ 18,000.
	<hr/>
	\$ 44,680.
x 2.5 =	\$ 111,700.

State I, Other Store

Vinyl Asbestos Floor Tile, 500 sf, @ \$4.50/sf	\$ 2,250.
	<hr/>
x 2.5 =	\$ 5,625.



Project No. 5780

HYGEIA INC.

Evans Building

Pipe Insulation, 295 lf, @ \$20/lf	\$ 5,900.
Tank Insulation, 120 sf, @ \$15/sf	\$ 1,800.
Fire Door, 22 fire doors, @ \$50/fd	\$ 1,100.
Vinyl Asbestos Floor Tile, 14,630 sf, @ \$4.50/sf	\$ 65,835.
Unaccessed Room Complexity Fire doors, Floor Tile x \$.25	\$ 16,730.
Roof Tar, 2,000 sf, @ \$6/sf	\$ 12,000.
Ceiling Plaster, 3,100 sf, @ \$12/sf	\$ 37,200.
Contaminated Debris, 200 sf, @ \$16.6/sf	\$ 3,333.
	<hr/>
	\$ 143,898.
x 2.5 =	\$ 359,745.

Evans Building, Video Store

Pipe Insulation, 150 lf, @ \$20/lf	\$ 3,000.
Vinyl Asbestos Floor Tile, 1,500 sf, @ \$4.50/sf	\$ 6,750.
	<hr/>
	\$ 9,750.
x 2.5 =	24,375.





Project No. 5780

HYGEIA INC.

Evans Building, Coffee House

Vinyl Asbestos Floor Tile, 300 sf, @ \$4.50/sf	\$ 1,350.
	<hr/>
x 2.5 =	\$ 3,375.

Evans Building, Market

Vinyl Asbestos Floor Tile, 1,300 sf, @ \$4.50/sf	\$ 5,850.
Pipe Insulation, 80 lf, @ \$20/lf	\$ 1,600.
	<hr/>
	\$ 7,450.
x 2.5 =	\$ 18,625.

611 Washington Street

Pipe Insulation, 2,655 lf, @ \$20/lf	\$ 53,100.
Pipe Joint Insulation, 11 J, @ \$50/J	\$ 550.
Boiler and Tank Insulation, 2,040 sf, @ \$20/sf	\$ 40,800.
Ceiling Plaster, 190 sf, @ \$12/sf	\$ 2,280.
Vinyl Asbestos Floor Tile, 18,625 sf, @ \$4.50/sf	\$ 83,812.
Fire Door, 1 fire door, @ \$50/fd	\$ 50.
Contaminated Debris, 1,820 sf, @ \$16.6/sf	\$ 30,333.



Project No. 5780

HYGEIA INC.

611 Washington Street (Continued)

Roof Tar,  
4,500 sf, @ \$6/sf \$ 27,000.

Unaccessed Rooms(.25 x pipe insulation and VAT) \$ 34,228.  
\$ 272,153.

x 2.5 = \$ 680,382.50

St. Francis House Sub-Basement

Pipe Insulation,  
980 lf, @ \$20/lf \$ 19,600.

Tank, Boiler, Breeching Insulation,  
1,280 sf, @ \$20/sf \$ 25,600.

Fire Door,  
1 fire door, @ \$50/fd \$ 50.

Contaminated Debris,  
1,500 cubic feet, @ \$50/cf \$ 75,000.  
\$ 120,250.

Complexity (x 1.5)  
due to difficult circumstances  
of location and conditions \$ 180,375.

x 2.5 = \$ 450,937.50

Book/Video Store

Vinyl Asbestos Floor Tile,  
4,000 sf, @ \$4.50/sf \$ 18,000.

x 2.5 = \$ 45,000.



Project No. 5780

HYGEIA INC.

Avery Hotel

Pipe Insulation, 9,305 lf, @ \$20/lf	\$ 186,100.
Breeching Insulation, 700 sf, @ \$20/sf	\$ 14,000.
Vinyl Asbestos Floor Tile, 3,504 sf, @ \$4.50/sf	\$ 15,768.
Ceiling Plaster, 400 sf, @ \$12/sf	\$ 4,800.
Fire Door, 20 fire doors, @\$50/fd	\$ 1,000.
Duct Insulation, 2,160 sf, @\$12/sf	\$ 25,920.
Contaminated Debris, 11,526.6 cubic feet, @ \$50/cf	\$ 576,333.
Roof Tar, 5,000 sf, @ \$6/sf	\$ 30,000.
	<hr/> \$ 853,921.

x 2.5 = \$2,134,802.50

Haymarket

Pizza Oven Insulation, 150 lf, @ \$20/lf	\$ 3,000.
Pipe Insulation, 325 lf, @ \$20/lf	\$ 6,500.
	<hr/> \$ 9,500.

x 2.5 = \$ 23,750.



Project No. 5780

HYGEIA INC.

Paramount (Not including Sub-Basement)

Air Unit Insulation,	
1,200 sf, @ \$12/sf	\$ 14,400.

Pipe Insulation,	
30 lf, @ \$20/lf	\$ 600.

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\$ 15,000.

x 2.5 = \$ 37,500.

TOTAL \$ 5,267,792.50





**TABLE 1B**

**Estimated Costs of PCB Removal**

- 735 fluorescent light ballasts
- 20 / disposal drum
- $735/20 = 37$  drums
- $37 \text{ drums} \times \$800/\text{drum} = \$26,900.$
- $\$26,900 \times 2.0 \text{ contingency} = \$59,200.$

Note: The light ballasts must be disposed of at a licensed and approved disposal site. The actual removal of the ballasts will be straightforward and will not require the use of licensed and trained personnel or any particular safety procedures, provided no ballasts are found to be leaking. The \$800/drum estimate includes disposal and actual removal costs.



**SUMMARY OF ESTIMATED COSTS**Asbestos

Hurwitz	\$ 375,750
Sallinger	147,100
State II	37,750
CB Lounge	811,375
State I, 625 Wash. St.	111,700
State I, Other Store	5,625
Evans	359,745
Evans, Video	24,375
, Coffee	3,375
, Market	18,625
611 Wash. St.	680,382.50
St. Francis, Sub-basement	450,937.50
Book/Video Store	45,000
Avery	2,134,802.50
Haymarket	23,750
Paramount	37,500

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Sub-total	\$ 5,267,792.50
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PCB

Light Ballasts	\$ 59,200
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Sub-total	\$ 59,200
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Total Estimate      \$ 5,326,992.50

Recommend that a range of \$5-7 million considered to account for contingencies and contractor variation.

HYGEIA INC. also recommends some contingency be carried in order to cover any uncovered asbestos-containing materials in unaccessible tunnels and buried at the sites of the former buildings on the development site: extend the upper range of the estimated costs to \$ 8 or \$ 9 million.



Project No. 5780

HYGEIA INC.

REPORT AND RECOMMENDATIONS OF THE SURVEY FOR ASBESTOS AND PCB-  
CONTAINING MATERIALS AT THE PROPOSED COMMONWEALTH CENTER  
DEVELOPMENT SITE, WASHINGTON STREET, BOSTON, MASSACHUSETTS

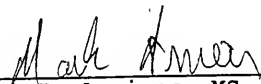
VOLUME TWO  
SURVEY REPORT OF  
ASBESTOS AND PCB-CONTAINING MATERIALS  
COMMONWEALTH CENTER DEVELOPMENT SITE  
BOSTON, MASSACHUSETTS

May 31, 1989

Prepared for: Mr. Gordon Hislop  
F.D. Rich Company of Boston  
Suite 1800  
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Prepared by: Michael Korbey and John Potter  
HYGEIA INC.  
303 Bear Hill Road  
Waltham, MA 02154  
Ref: 5780-2/Report

Approved by:

  
Mark R. Arriens, MS, CIH  
Senior Consultant  
Manager, Boston Operations



Project No. 5780

HYGEIA INC.

APPENDIX B:

ORIGINAL HYGEIA INC. SURVEY SHEETS





Project No. 5780

HYGEIA INC.

APPENDIX C:

ORIGINAL HYGEIA INC. BULK SAMPLE  
ANALYSIS SHEETS



PART FOUR

**ANALYSIS OF SAMPLES**

A total of 93 samples of suspected asbestos-containing material were collected and analyzed at the HYGEIA INC. laboratory, in Waltham, Massachusetts.

The bulk samples are analyzed by polarized light microscopy (EPA Interim Method: Appendix A to Subpart F-40 CFR Part 763) at magnifications ranging from 10x to 400x. The estimated phase abundances are provided in weight percent and are accurate to within 10 to 15 percent of the amount reported. This method is sensitive to the detection of asbestos to less than one percent by weight. The HYGEIA INC. laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) (Laboratory Code 1011 00) of the National Institute of Standards and Technology (NIST) for asbestos in bulk sample analysis and by the States of Massachusetts, Rhode Island, Connecticut, Vermont, New York, and Maine for asbestos analysis.

HYGEIA INC. and its personnel shall not be liable for secondary or consequential damages arising from use of information contained in this report. Liability shall extend to providing duplicate analyses only. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

The HYGEIA INC. laboratory is accredited by the American Industrial Hygiene Association for asbestos analysis (AIHA #272) and participates in the National Institute of Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program for air asbestos samples.



**TABLE II**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
HH-02A HB3373F	4/17	House of Hurwitz finished plaster wall and ceilings	No Asbestos Detected Cellulose Fiber 5% Calcite Trace Gypsum/Anhydrite/Clays 85% Quartz 10%
HH-03A HB3374F	4/17	House of Hurwitz basement "Magnesia" insulation (0-4")	Asbestos, Chrysotile 10% Asbestos, Crocidolite 25% Cellulose Fiber 30% Calcite 5% Gypsum/Anhydrite/Clays 20% Quartz 5% Organic Binder Trace Opauques 5%
HH-05A HB3375F	4/17	House of Hurwitz basement joint insulation	Asbestos, Chrysotile 80% Cellulose Fiber 5% Mineral Rock Wool 5% Calcite Trace Quartz Trace Opauques 10%
HH-06A HB3378F	4/17	House of Hurwitz first floor tarred rope pipe insulation	Asbestos, Chrysotile 25% Cellulose Fiber 5% Gypsum/Anhydrite 10% Organic Binder 30% Opauques 5% Cork 25%
HH-07A HB3379F	4/17	House of Hurwitz roof - roof felt tar	Asbestos, Chrysotile 5% Cellulose Fiber 65% Quartz 5% Organic Binder 20% Opauques 5%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
S.II-03A HB3361F	4/19	State II theatre 2x2 ceiling tile	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool 60% Perlite 5% Gypsum/Anhydrite/Clays 20% Quartz 5% Organic Binder 5%
S.II-04A HB3362F	4/19	State II theatre 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 20% Mineral Rock Wool 30% Perlite 15% Gypsum/Anhydrite/Clays 30% Quartz 5%
S.II-05A HB3363F	4/19	State II theatre cloth around screen	No Asbestos Detected Opagues 5% Synthetic Fiber 95%
S.II-06A HB3364F	4/19	State II theatre 1x1 ceiling tile	Asbestos, Amosite 5% Cellulose Fiber 5% Mineral Rock Wool 50% Gypsum/Anhydrite/Clays 35% Quartz Trace Organic Binder 5% Opagues Trace
CB-01A HB3401F	4/18	CB Lounge entrance 1x1 ceiling tile	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool 75% Gypsum/Anhydrite/Clays 10% Quartz 5% Organic Binder 5%





**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
CB-02A HB3402F	4/18	CB Lounge entrance ceiling and wall plaster	No Asbestos Detected Cellulose Fiber 50% Calcite 10% Gypsum/Anhydrite/Clays 35% Opaques/Clays 5%
CB-05A HB3403F	4/18	CB Lounge - store 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 50% Mineral Rock Wool Trace Calcite 5% Gypsum/Anhydrite/Clays 35% Quartz Trace Organic Binder 5% Opaques 5%
CB-07A HB3404F	4/18	CB Lounge 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 40% Mineral Rock Wool 45% Perlite 10% Organic Binder 5%
CB-08A HB3405F	4/18	CB Lounge roof - tar	Asbestos, Chrysotile 50% Cellulose Fiber 20% Organic Binder 30%
CB-09A HB3406F	4/18	CB Lounge 5th floor 2x8 C.T.	No Asbestos Detected Cellulose Fiber 95% Organic Binder 5%
CB-101A HB4052F	5/4	CB Lounge 6th floor	No Asbestos Detected Cellulose Fiber 90% Mineral Rock Wool Trace Organic Binder 5% Opaques 5%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
S.I-02A HB3380F	4/18	State I theatre basement ceiling plaster	No Asbestos Detected Cellulose Fiber 5% Gypsum/Anhydrite 20% Quartz 35% Organic Binder/Opaque 40%
S.I-03A HB3381F	4/18	State I theatre basement wall plaster	No Asbestos Detected Cellulose Fiber 5% Gypsum/Anhydrite 55% Quartz 15% Organic Binder/Opaque 25%
S.I-05A HB3382F	4/18	State I theatre men's room & right crawl space ceiling plaster	No Asbestos Detected Gypsum/Anhydrite 35% Quartz 45% Organic Binder/Opaque 20% Amphibole Trace
S.I-06A HB3383F	4/18	State I theatre men's room entrance wall plaster	No Asbestos Detected Cellulose Fiber 5% Calcite 5% Gypsum/Anhydrite 45% Quartz 40% Organic Binder/Opaque 5% Amphibole Trace
S.I-08A HB3384F	4/18	State I theatre main lobby ceiling plaster	No Asbestos Detected Cellulose Fiber 10% Gypsum/Anhydrite/Clay 65% Quartz 20% Organic Binder/Opaque 5%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
S.I-09A HB3385F	4/18	State I theatre main lobby 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 30% Mineral Rock Wool 20% Perlite 10% Gypsum/Anhydrite 5% Quartz 15% Organic Binder/Opaque 20%
S.I-10A HB3386F	4/18	State I theatre generator room 1x1 cork ceiling tile	Asbestos, Chrysotile 5% Cellulose Fiber 50% Gypsum/Anhydrite 5% Quartz 10% Organic Binder 30%
S.I-13A HB3387F	4/18	State I theatre wall cloth	No Asbestos Detected Cellulose Fiber 85% Gypsum/Anhydrite 5% Organic Binder/Opaque 10%
O.S.-03A HB3359F	4/18	Other Store 2x2 C.T.	No Asbestos Detected Cellulose Fiber 30% Mineral Rock Wool 25% Perlite 10% Gypsum/Anhydrite 15% Organic Binder/Opaque 20%
O.S.-04A HB3360F	4/18	Other Store peg board	No Asbestos Detected Cellulose Fiber 85% Organic Binder/Opaque 15%
E-03A HB3296F	4/18	Evans Bldg. (0-4") Magnesia insulation basement hall	Asbestos, Chrysotile 25% Asbestos, Amosite 30% Calcite 5% Organic Binder/Clays 40%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date</u> <u>1989</u>	<u>Location</u>	<u>Results</u>
E-04A HB3297F	4/17	Evans Bldg. basement hall tank insulation	Asbestos, Chrysotile 30% Cellulose Fiber 10% Gypsum/Anhydrite/Clays 45% Organic Binder/Opaque 15%
E-05A HB3298F	4/17	Evans Bldg. basement ceiling plaster	No Asbestos Detected Cellulose Fiber 15% Gypsum/Anhydrite/Clays 30% Quartz 25% Opakes 20% Amphiboles 10%
E-05B HB3299F	4/17	Evans Bldg. basement ceiling plaster	Asbestos, Chrysotile 3% Cellulose Fiber 5% Gypsum/Anhydrite/Clays 37% Vermiculite 5% Quartz 35% Organic Binder/Opakes 15%
E-05C HB3300F	4/17	Evans Bldg. basement ceiling plaster	No Asbestos Detected Cellulose Fiber 10% Gypsum/Anhydrite/Clays 45% Vermiculite 5% Quartz 40% Amphiboles Trace
E-06A HB3301F	4/17	Evans Bldg. basement hall wall plaster	No Asbestos Detected Cellulose Fiber 15% Gypsum/Anhydrite/Clays 55% Quartz 25% Amphiboles 5%
E-07A HB3302F	4/17	Evans Bldg. basement hall 4-8" Magnesia insulation	Asbestos, Chrysotile 5% Asbestos Amosite 35% Cellulose Fiber 5% Organic Binder/Clays 50% Opakes 5%





TABLE II (Continued)  
BULK SAMPLE ANALYSIS RESULTS

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
E-08A HB3303F	4/17	Evans Bldg. basement hall electrical conduit insulation	No Asbestos Detected Cellulose Fiber 5% Gypsum/Anhydrite/Clays 50% Quartz 10% Organic Binder/Opaques 35%
E-09A HB3304F	4/17	Evans Bldg. barrel room tape wrap	Asbestos, Chrysotile 70% Cellulose Fiber 10% Mineral Rock Wool 5% Gypsum/Anhydrite/Clays 5% Organic Binder/Opaques 10%
E-13A HB3307F	4/17	Evans Bldg. room 201 1x1 glue on ceiling tile	No Asbestos Detected Cellulose Fiber 95% Organic Binder 5%
E-14A HB3308F	4/17	Evans Bldg. room 202 wall plaster	No Asbestos Detected Cellulose Fiber 10% Calcite 5% Gypsum/Anhydrite 15% Quartz 5% Organic Binder 65%
E-15A HB3309F	4/17	Evans Bldg. room 205, 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 95% Gypsum/Anhydrite/Clays 5%
E-22A HB3310F	4/17	Evans Bldg. Fire door, Rm. 310	Asbestos, Chrysotile 45% Asbestos, Amosite 20% Organic Binder/Clays 35%
E-23A HB3311F	4/17	Evans Bldg. 3rd floor restroom 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 40% Mineral Rock Wool 20% Perlite 25% Quartz 5% Organic Binder 10%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>	
E-28A HB3312F	4/17	Evans Bldg. roof - roofing felt/tar	Asbestos, Chrysotile Quartz Organic Binder Opagues	20% 15% 45% 20%
MTV-03A HB3365F	4/19	My Tan Video Store basement pressed cardboard duct insulation	No Asbestos Detected Cellulose Fiber Mineral Rock Wool Gypsum/Anhydrite Quartz Opagues/Bndr/Clays	 70% 5% 5% Trace 20%
MTV-03B HB3366F	4/19	My Tan Video Store basement pressed cardboard duct insulation	No Asbestos Detected Cellulose Fiber Mineral Rock Wool Quartz Organic Binder/Opagues	 55% 5% 5% 35%
MTV-03C HB3367F	4/19	My Tan Video Store basement pressed cardboard duct insulation	No Asbestos Detected Cellulose Fiber Mineral Rock Wool Vermiculite Quartz Organic Binder/Opagues	 55% Trace 10% 10% 25%
MTV-04A HB3368F	4/19	My Tan Video Store basement 0-4" pipe insulation	No Asbestos Detected Gypsum/Anhydrite Quartz Organic Binder Opagues Synthetic Fiber	 5% Trace 10% 5% 80%
MTV-04B HB3369F	4/19	My Tan Video Store basement 0-4" pipe insulation	No Asbestos Detected Organic Binder Animal Hair	 10% 90%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
MTV-04C HB3370F	4/19	My Tan Video Store basement 0-4" pipe insulation	No Asbestos Detected Synthetic Fiber & Animal Hair 100%
VM-03A HB3313F	4/19	Viet Nam Market 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 55% Mineral Rock Wool 5% Perlite 15% Calcite Trace Gypsum/Anhydrite 10% Quartz Trace Organic Binder Trace Opaques/Clays/Bndr 15%
VM-06A HB3314F	4/19	Viet Nam Market peg board	No Asbestos Detected Cellulose Fiber 85% Organic Binder 5% Opaques 10%
VM-08A HB3315F	4/19	Viet Nam Market 1x1 ceiling tile	No Asbestos Detected Cellulose Fiber 95% Organic Binder 5% Opaques Trace
611-04A HB3493F	4/28	611-615 Washington Street - ceiling plaster, boiler room	Asbestos, Chrysotile 3% Asbestos Amosite 2% Cellulose Fiber 15% Mineral Rock Wool Trace Calcite Trace Gypsum/Anhydrite 25% Vermiculite 30% Organic Binder/Opaque 25%
611-05A HB3494F	4/28	611-615 Washington Street - duct insulation, basement	No Asbestos Detected Cellulose Fiber 40% Gypsum/Anhydrite 10% Organic Binder/Opaque 50%









**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
611-05B HB3495F	4/28	611-615 Washington Street - duct insulation, basement	No Asbestos Detected Cellulose Fiber 85% Gypsum/Anhydrite 5% Organic Binder/Opaque 10%
611-05C HB3496F	4/28	611-615 Washington Street - duct insulation, basement	No Asbestos Detected Cellulose Fiber 60% Gypsum/Anhydrite 5% Organic Binder/Opaque 35%
611-06A HB3497F	4/28	611-615 Washington Street - ceiling and wall, basement	No Asbestos Detected Cellulose Fiber 5% Calcite Trace Gypsum/Anhydrite 35% Quartz 50% Organic Binder/Opaque 10% Amphibole Trace
611-09A HB3498F	4/28	611-615 Washington Street - 1x1 ceiling tile back room	No Asbestos Detected Cellulose Fiber 75% Gypsum/Anhydrite 5% Organic Binder/Opaque 20%
611-14A HB3499F	4/28	611-615 Washington Street - pegboard, furniture store	No Asbestos Detected Cellulose Fiber 60% Gypsum/Anhydrite 10% Organic Binder/Opaque 30%
611-16A HB3500F	4/28	611-615 Washington Street - hard joints, 0-4" pipe insulation, 4th floor	Asbestos, Chrysotile 10% Cellulose Fiber Trace Mineral Rock Wool 45% Gypsum/Anhydrite 30% Quartz 5% Organic Binder 10%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
611-11A HB3734F	4/28	611-Washington Street - lobby to 611 1x1 ceiling tile, 4th floor	No Asbestos Detected Cellulose Fiber 10% Mineral Rock Wool 60% Calcite 5% Gypsum/Anhydrite 10% Organic Binder/Opaque 15%
611-17A HB3735F	4/28	611-Washington Street - roof tar on 611	No Asbestos Detected Cellulose Fiber 5% Quartz 20% Organic Binder/Opaque 75%
BS-02A HB4043F	5/4	Book/Video Store 2x4 ceiling tile	No Asbestos Detected Cellulose Fiber 65% Mineral Rock Wool 10% Perlite 5% Calcite Trace Gypsum/Anhydrite/Clays 5% Quartz Trace Organic Binder 15%
BS-04A HB4044F	5/4	Book/Video Store wall plaster	No Asbestos Detected Cellulose Fiber 20% Mineral Rock Wool Trace Calcite 10% Gypsum/Anhydrite/Clays 50% Quartz 15% Opagues 5%
BS-06A HB4045F	5/4	Book/Video Store heater - first floor	No Asbestos Detected Cellulose Fiber 5% Fiber Glass 70% Organic Binder 25%
BS-06B HB4046F	5/4	Book/Video Store heater insulation first floor	No Asbestos Detected Cellulose Fiber 5% Fiber Glass 70% Organic Binder 25%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
BS-06C HB4047F	5/4	Book/Video Store heater insulation first floor	No Asbestos Detected Cellulose Fiber 5% Fiber Glass 75% Organic Binder 20%
BS-07A HB4048F	5/4	Book/Video Store 12x12" floor tile	Asbestos, Chrysotile 2% Cellulose Fiber 5% Calcite 45% Gypsum/Anhydrite 38% Quartz 5% Organic Binder 5%
AV-02A HB3414F	4/24	Avery sub-basement boiler room breaching	No Asbestos Detected Cellulose Fiber 10% Mineral Rock Wool Trace Gypsum/Anhydrite/Clays 25% Vermiculite 55% Quartz 10%
AV-02B HB3415F	4/24	Avery sub-basement boiler room breaching	No Asbestos Detected Cellulose Fiber 60% Mineral Rock Wool Trace Calcite 5% Vermiculite 15% Quartz 5% Organic Binder 15%
AV-02C HB3416F	4/24	Avery sub-basement boiler room breaching	No Asbestos Detected Cellulose Fiber 50% Vermiculite 25% Quartz 5% Organic Binder/Clays 20%



TABLE II (Continued)

## BULK SAMPLE ANALYSIS RESULTS

<u>Sample No.</u>	<u>Date</u> <u>1989</u>	<u>Location</u>	<u>Results</u>
AV-06A HB3417F	4/24	Avery basement ceiling plaster	No Asbestos Detected Cellulose Fiber Trace Calcite 5% Gypsum/Anhydrite/Clays 50% Quartz 40% Opaques 5%
AV-07A HB3418F	4/24	Avery lobby 1x1 ceiling tile	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool 65% Gypsum/Anhydrite 10% Quartz 5% Organic Binder 5% Opaques 10%
AV-08A HB3419F	4/24	Avery lobby plaster	No Asbestos Detected Cellulose Fiber Trace Gypsum/Anhydrite/Clays 90% Quartz 10% Organic Binder Trace
AV-10A HB3420F	4/24	Avery piano bar 1x1 ceiling tile	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool 55% Calcite 5% Gypsum/Anhydrite 15% Organic Binder 5% Opaques 15% Synthetic Fiber Trace
AV-11A HB3421F	4/24	Avery piano bar acoustical ceiling plaster	Asbestos, Chrysotile 3% Cellulose Fiber 5% Mineral Rock Wool 5% Fiber Glass 5% Perlite 5% Gypsum/Anhydrite/Clays 25% Vermiculite 52%





**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
AV-12A HB3422F	4/24	Avery piano bar chase plaster over duct	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool Trace Fiber Glass 5% Calcite 15% Gypsum/Anhydrite/Clays 65% Quartz 10%
AV-19A HB4049F	5/4	Avery "Transite" floor 1	Asbestos, Chrysotile 40% Cellulose Fiber Trace Perlite 5% Gypsum/Anhydrite/Clays 45% Quartz 5% Opakes 5%
AV-14A HB3492F	4/28	Avery Hotel (MM type) fire door interior	Asbestos, Chrysotile 25% Asbestos, Amosite 2% Cellulose Fiber 5% Organic Binder 58% Amphiboles 10%
AV-15A HB3423F	4/25	Avery Hotel 3rd - 11th plaster	No Asbestos Detected Calcite 5% Gypsum/Anhydrite/Clays 55% Quartz 40% Opakes Trace
AV-16A HB3424F	4/25	Avery Hotel fireblock	No Asbestos Detected Cellulose Fiber 5% Gypsum/Anhydrite/Talc 85% Quartz 10%
AV-17A HB3425F	4/25	Avery Hotel radiator lining	No Asbestos Detected Cellulose Fiber 70% Organic Binder 20% Opakes 10%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>	
AV-17B HB3426F	4/25	Avery Hotel radiator lining	No Asbestos Detected Cellulose Fiber Organic Binder Opagues	75% 20% 5%
AV-17C HB3427F	4/25	Avery Hotel radiator lining	No Asbestos Detected Cellulose Fiber Organic Binder Opagues	75% 20% 5%
AV-20A HB4353F	5/8	Avery Hotel Cardboard duct insulation	Asbestos, Chrysotile Cellulose Fiber Gypsum/Anhydrite/Clay Quartz Organic Binder Opagues	70% 5% 15% 5% Trace 5%
AV-21A HB4354F	5/8	Avery Hotel Ceiling plaster	No Asbestos Detected Cellulose Fiber Gypsum/Anhydrite/Clay Quartz Organic Binder & Synthetic Binder	5% 45% 10% 40%
H-01A HB3407F	4/24	Haymarket Bar basement cardboard pizza oven insulation	Asbestos, Chrysotile Cellulose Fiber Organic Binder Opagues	75% 5% 15% 5%
H-04A HB3410F	4/24	Haymarket Bar basement freezer cork insulation	No Asbestos Detected Cellulose Fiber Opagues	80% 20%



**TABLE II (Continued)**  
**BULK SAMPLE ANALYSIS RESULTS**

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
H-05A HB3411F	4/24	Haymarket Bar basement freezer Board	No Asbestos Detected Calcite Gypsum/Anhydrite/Clays 50% Quartz 45% Opauques 5%
H-06A HB3412F	4/24	Haymarket Bar basement cement	No Asbestos Detected Cellulose Fiber 5% Calcite 10% Gypsum/Anhydrite 45% Vermiculite 40% Quartz Trace Opauques Trace
H-08A HB3413F	4/24	Haymarket Bar basement and first floor wall board	No Asbestos Detected Cellulose Fiber 30% Mineral Rock Wool Trace Calcite 15% Gypsum/Anhydrite/Clays 50% Quartz 5% Opauques Trace
P-02A HB3731F	4/24	Paramount Roof tar on rock	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool Trace Gypsum/Anhydrite/Clays 30% Quartz 35% Organic Binder/Opaque 30%
P-03A HB3732F	4/24	Paramount cork pipe insulation	No Asbestos Detected Cellulose Fiber 10% Gypsum/Anhydrite 5% Organic Binder/Opaque 85%



TABLE II (Continued)  
BULK SAMPLE ANALYSIS RESULTS

<u>Sample No.</u>	<u>Date 1989</u>	<u>Location</u>	<u>Results</u>
P-05A HB3733F	4/24	Paramount Cementitious air handling unit covering	Asbestos, Chrysotile 2% Cellulose Fiber Trace Gypsum/Anhydrite 30% Quartz 43% Organic Binder/Opaque 20% Amphibole 5%
P-101A HB4051F	5/4	Paramount lobby 1x1 ceiling tile	No Asbestos Detected Cellulose Fiber 5% Mineral Rock Wool 70% Calcite Trace Gypsum/Anhydrite 15% Organic Binder 5% Opagues 5%





Project No. 5780

HYGEIA INC.

APPENDIX A:

HYGEIA INC. SKETCHES



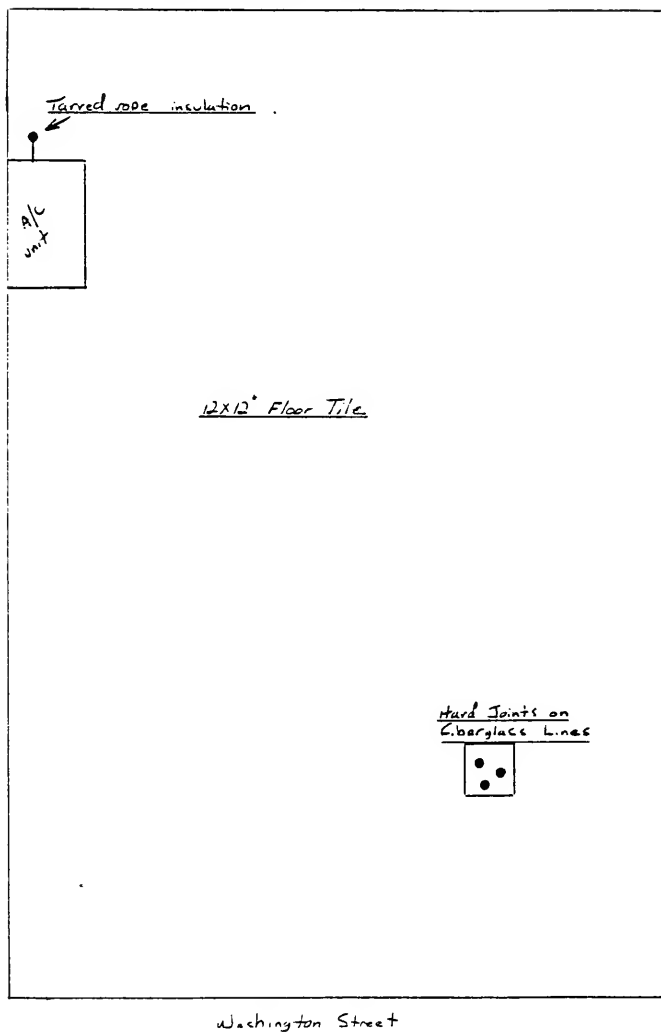
[illegible]

A hand-drawn floor plan of a rectangular room. The plan shows the following details:

- Top Wall:** A label "9x9 Floor Tile" is positioned above the wall.
- Right Wall:** Two labels "4x8 Floor Tile" are positioned along the right wall.
- Floor Tiles:** There are two L-shaped tiles labeled "4x8 Floor Tile". One is located near the top-left corner, and the other is located near the bottom-left corner.
- Insulation:**
  - A label "4'-0\" Floor Insulation" is at the top left, with arrows indicating a horizontal strip.
  - A label "4'-0\" Floor Insulation" is on the left side, with arrows indicating a vertical strip.
  - A label "4'-0\" Floor Insulation" is at the bottom center, with arrows indicating a horizontal strip.
- Door:** A door is shown on the left wall, swinging inward towards the room.
- Dimensions:** The overall dimensions of the room are 16'0" wide by 12'0" deep, as indicated by the numbers at the bottom of the drawing.



House of Huxitz - First Floor



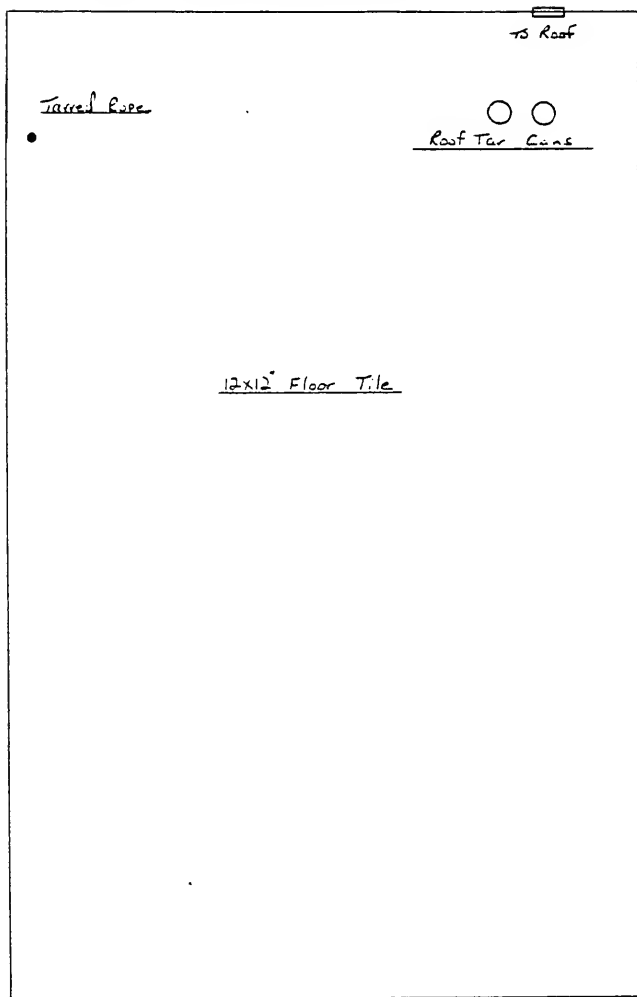








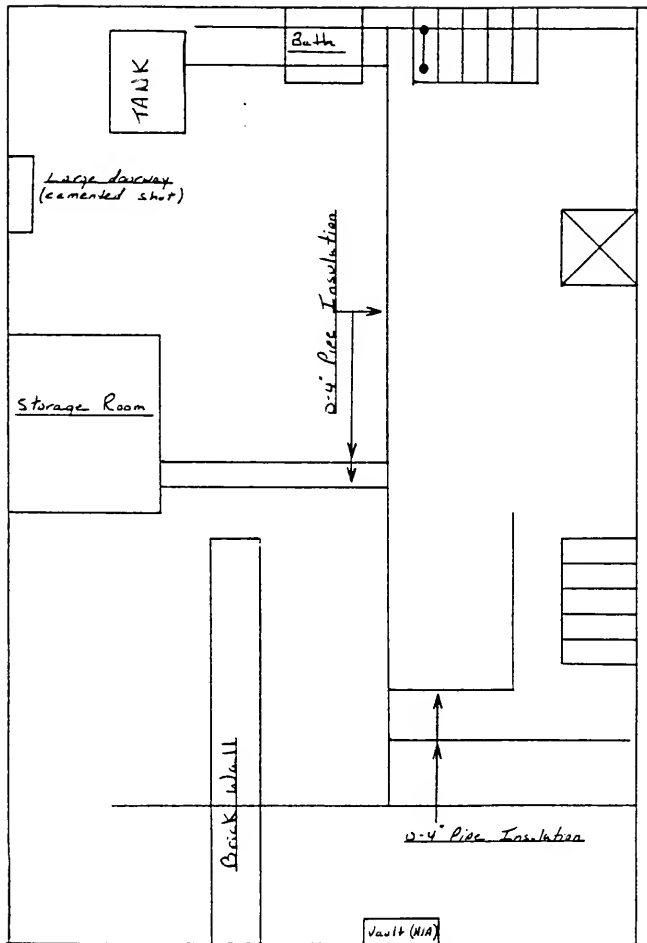
House of Hurnitz - Second Floor



Washington Street



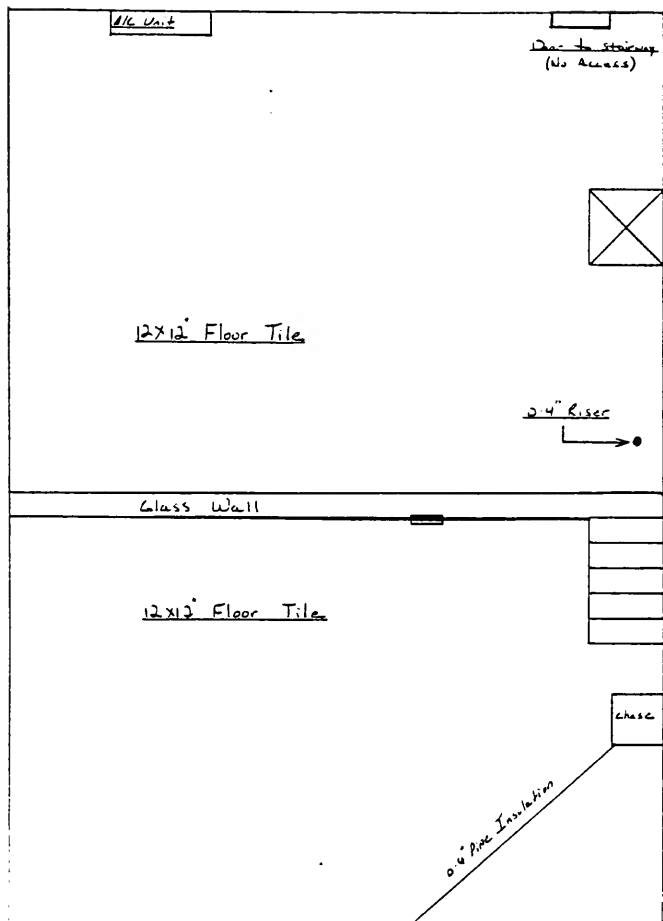
Basement - Sallinger



Washington Street

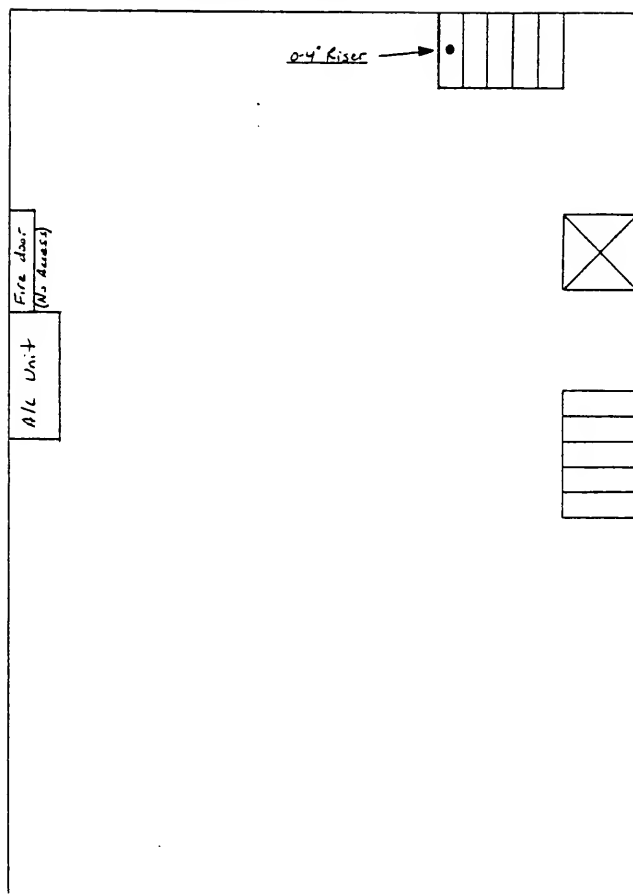


First Floor - Sallinger





Second Floor - Sallinger

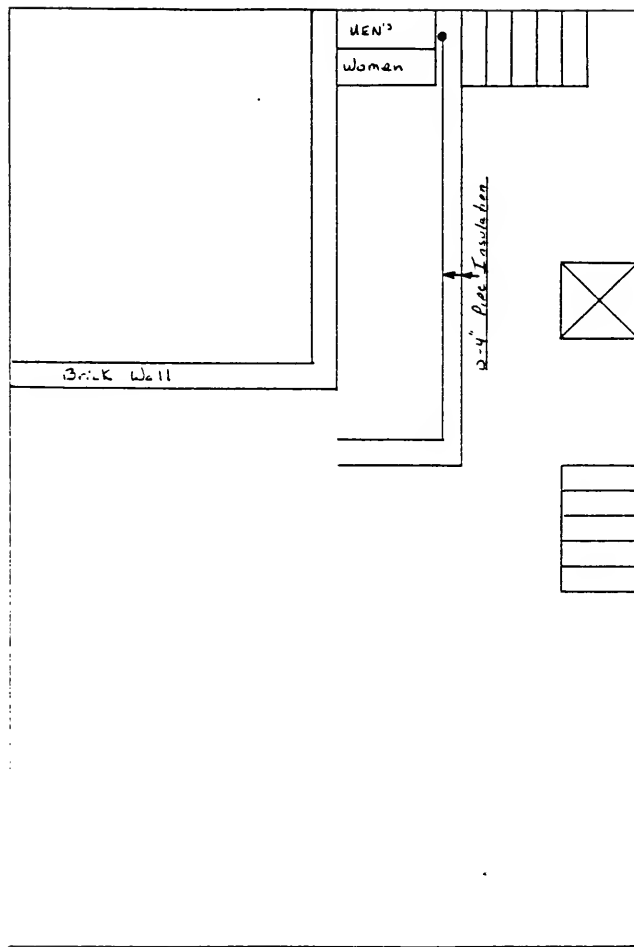


Washington Street





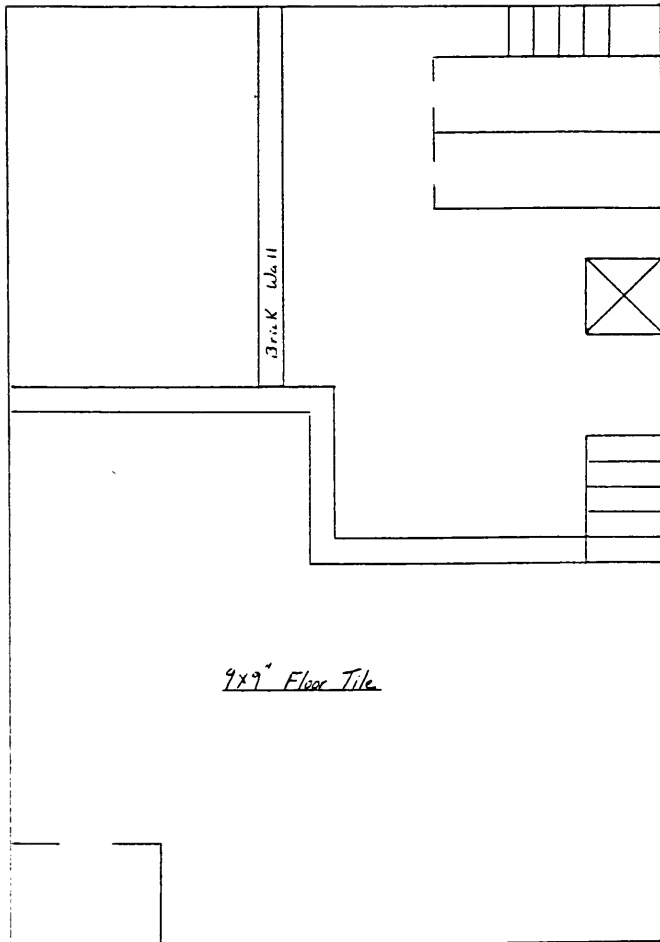
Third Floor - Sallinger



Washington Street



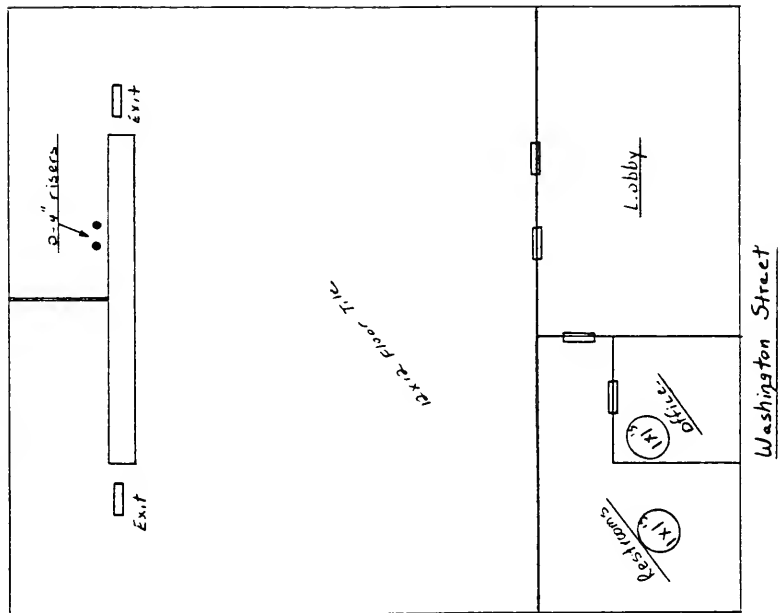
Fourth Floor: Sallinger



Washington Street



State All Theatre



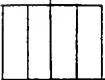


Basement - Lounge, Store, Stair II

Underspread Contamination

Electrical

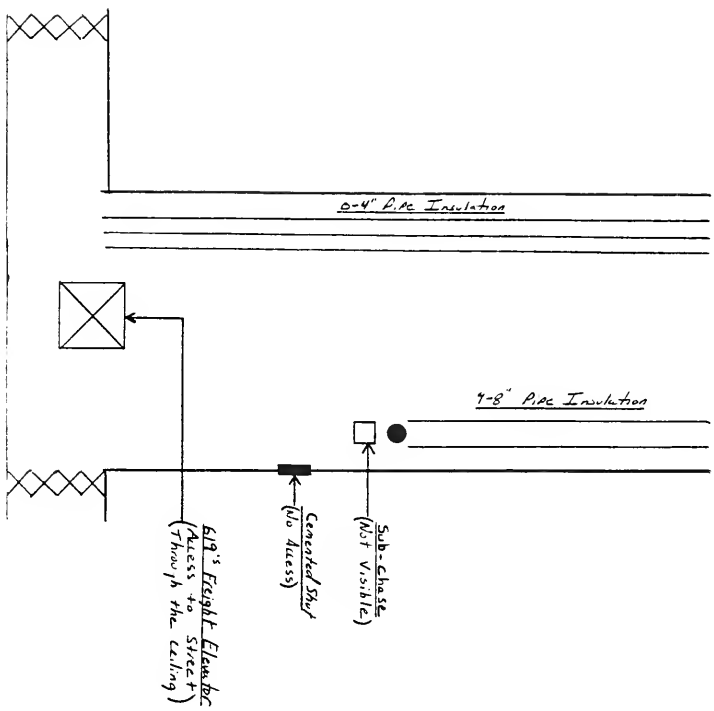
Trunk I  
→





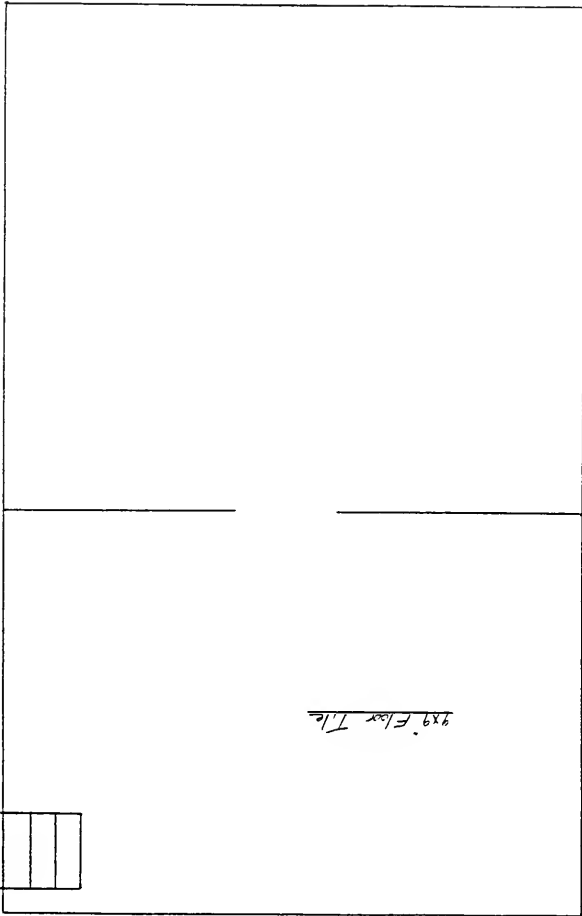


Steam Tunnel Under L3 Lounge





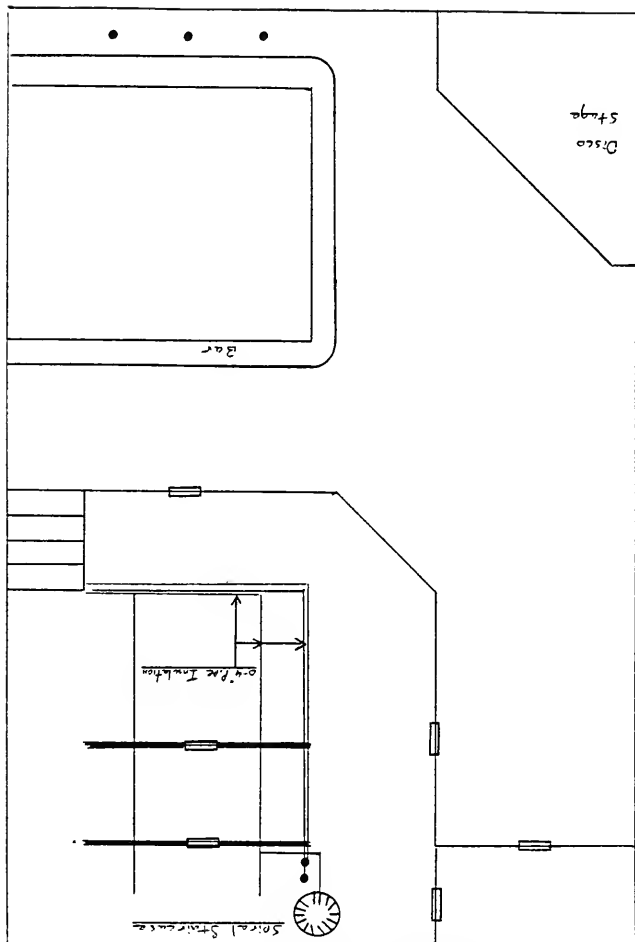
Washington Street



Lobby - 613 Lounge



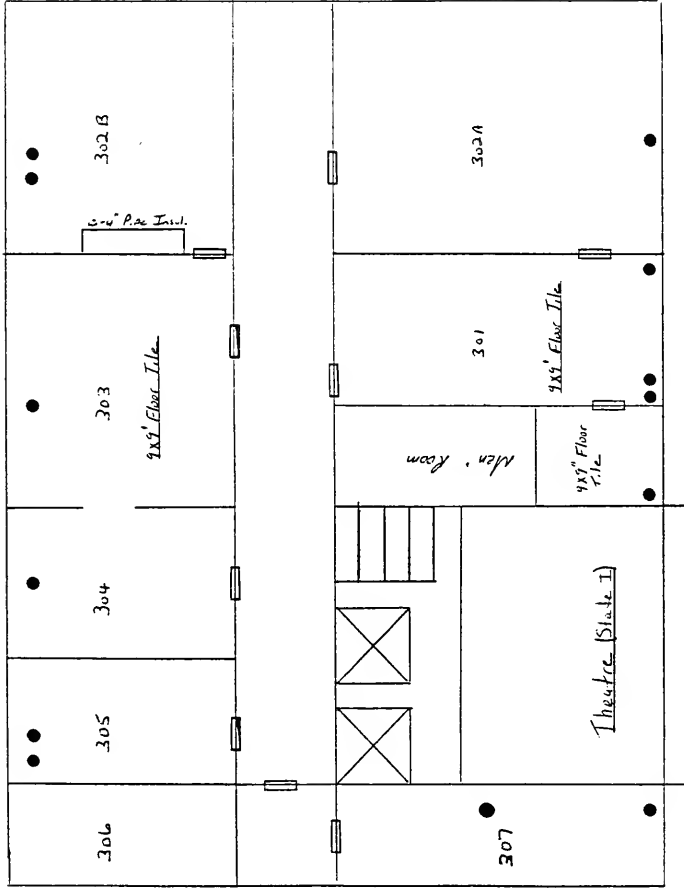
Washington Street



Second Floor Lounge - 613 Lounge



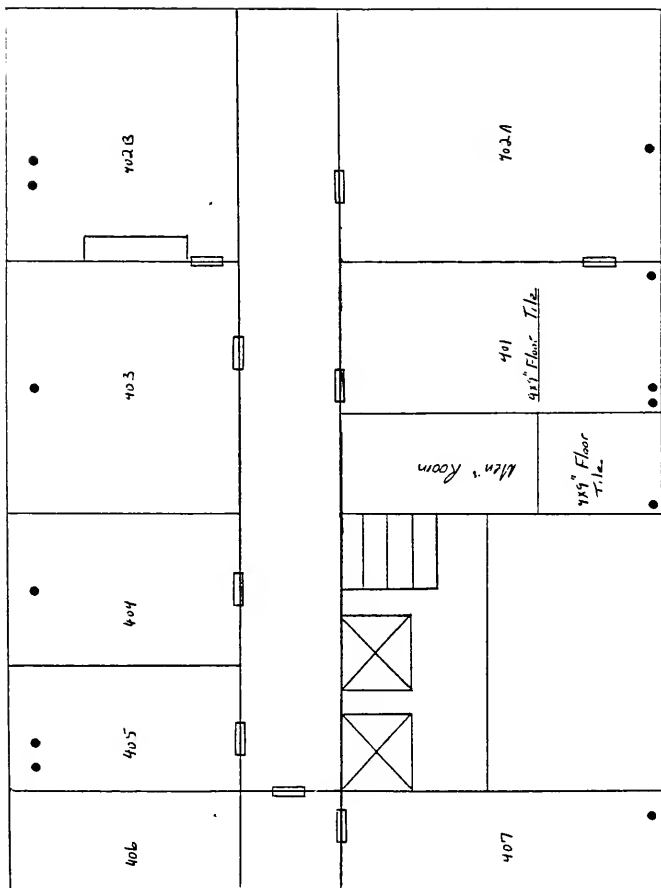
Third Floor - CB Lounge





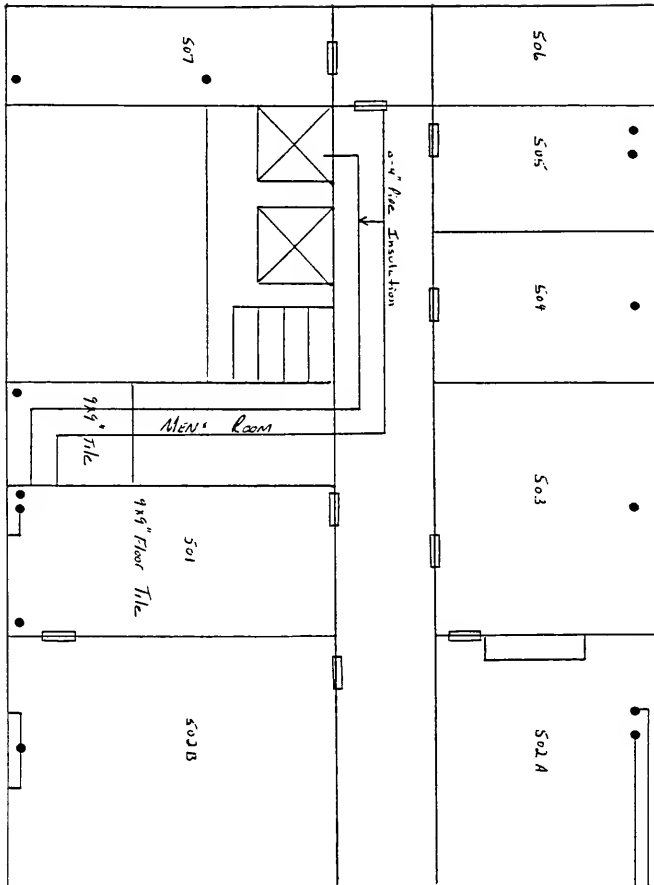


Fourth Floor - CB Lounge



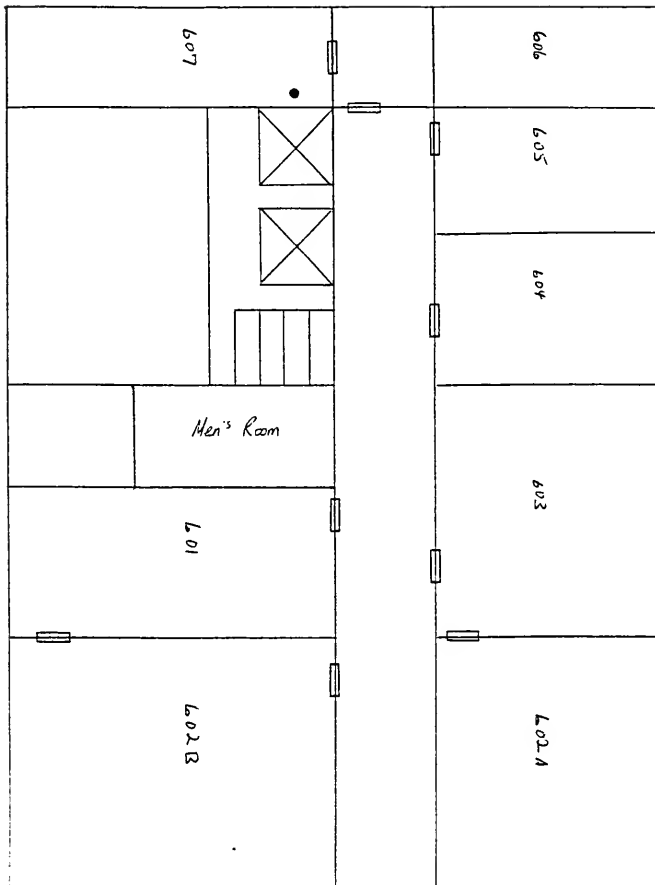


Fifth Floor - CB Lounge



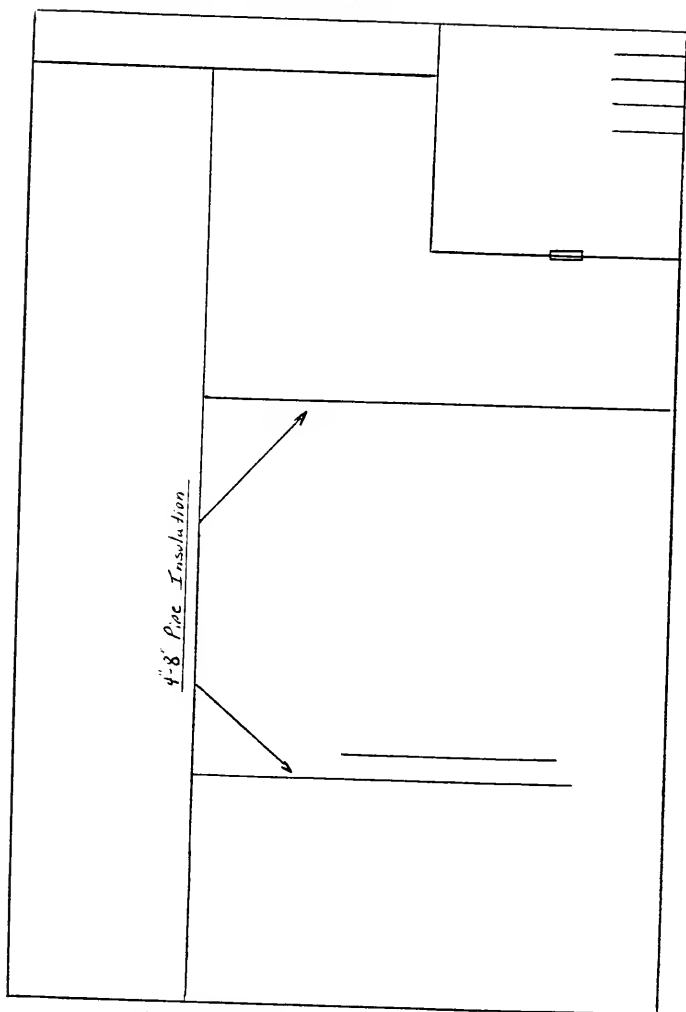


Sixth Floor - CB Lounge





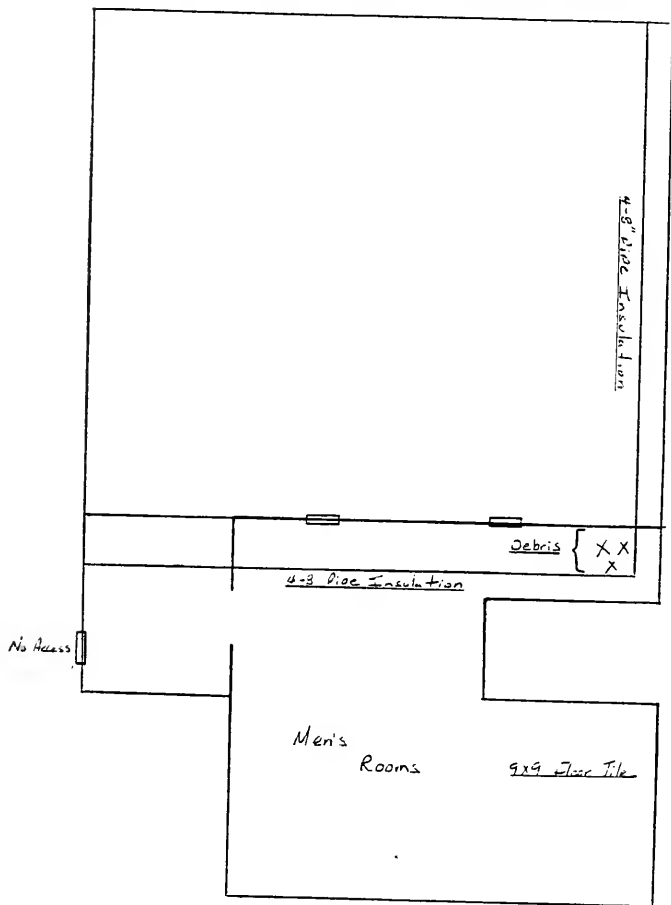
Right Basement - Stack T





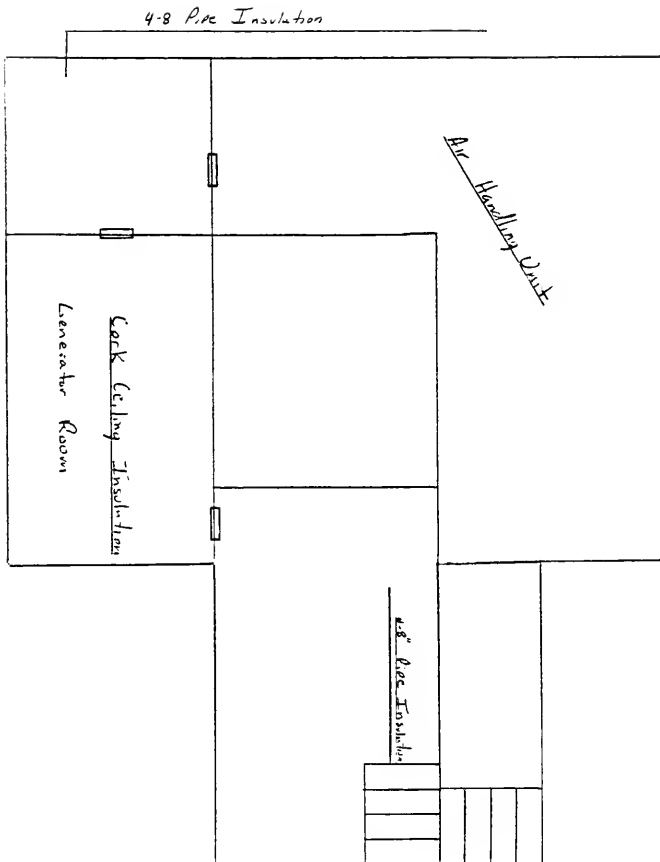


Basement, Men's Room, Front Crawl Space - stat I



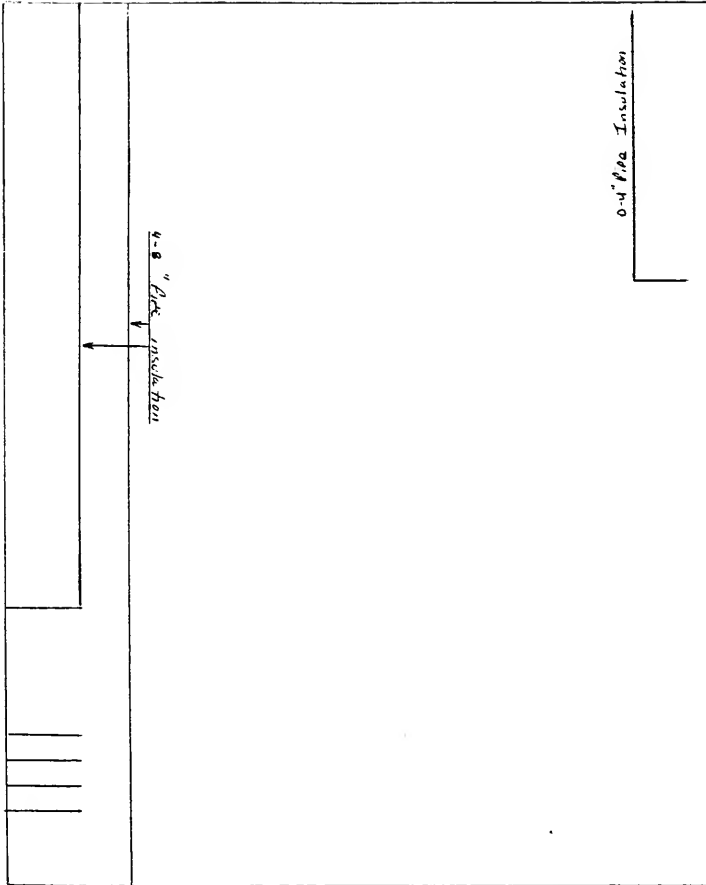


State I - Basement Behind Stage



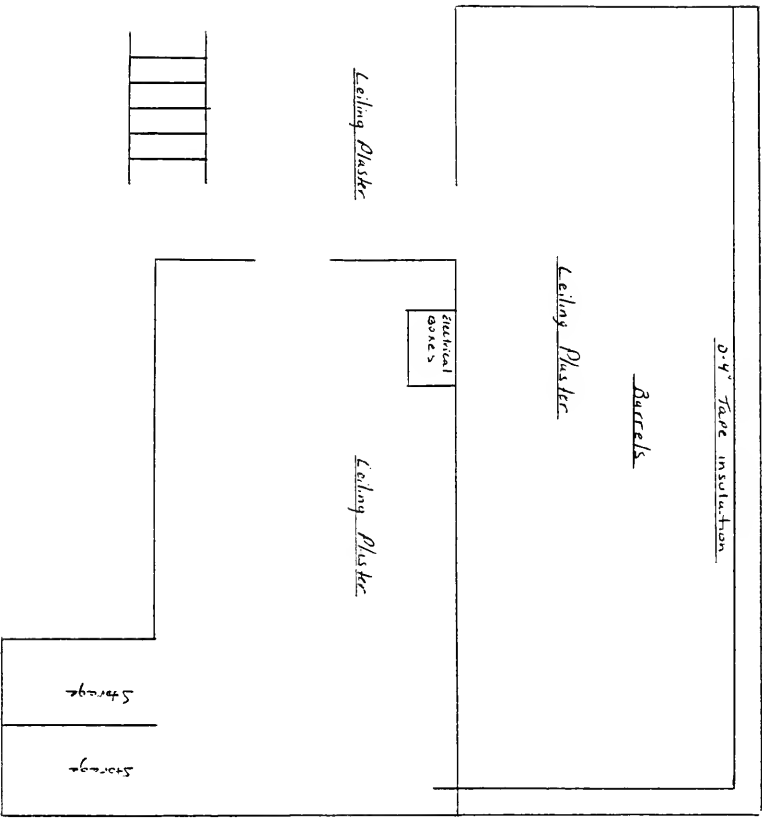


Videos Store Basement - Evans House

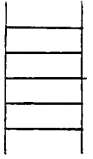




Basement - Part 2  
Evans House



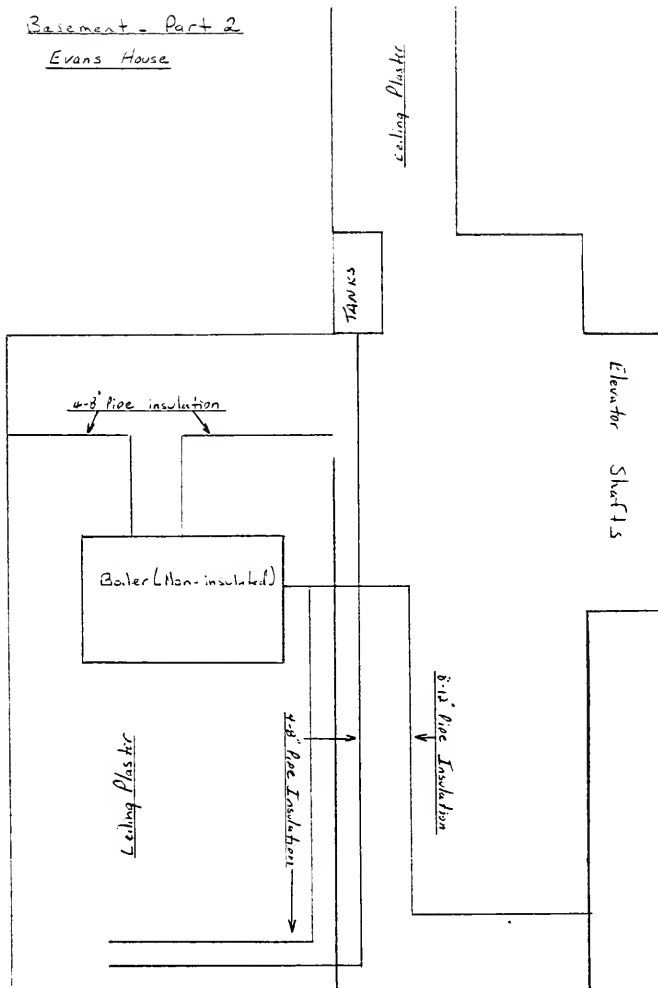
Washington Street





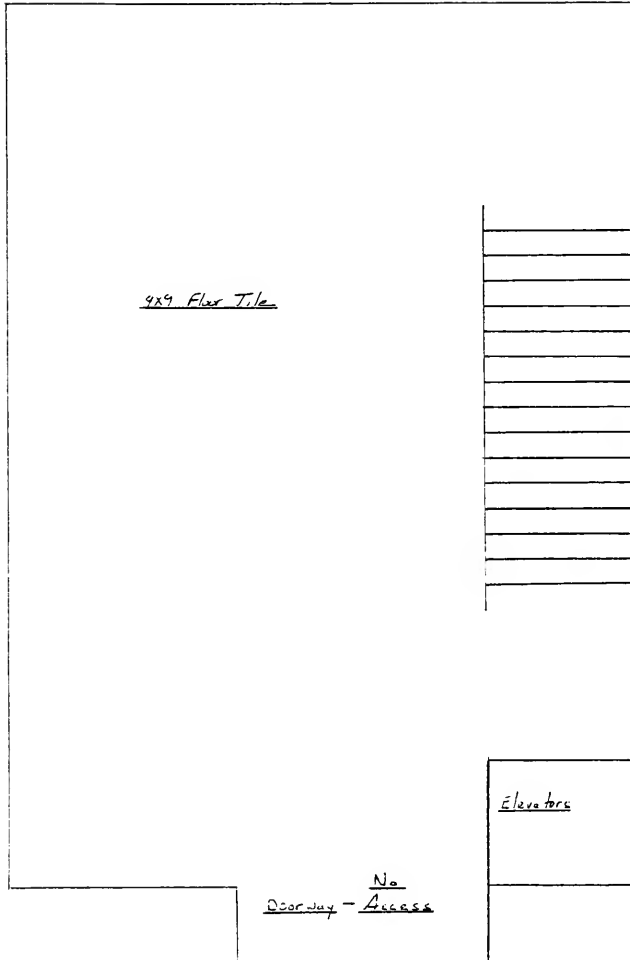


Basement - Part 2  
Evans House



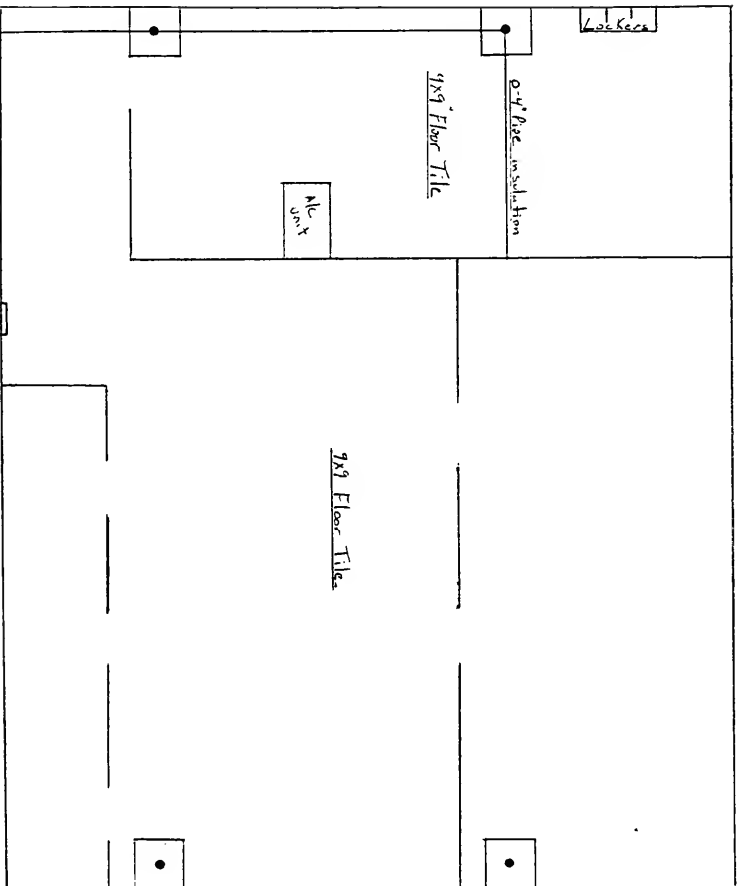


Lobby - Evans House  
Tremont Street



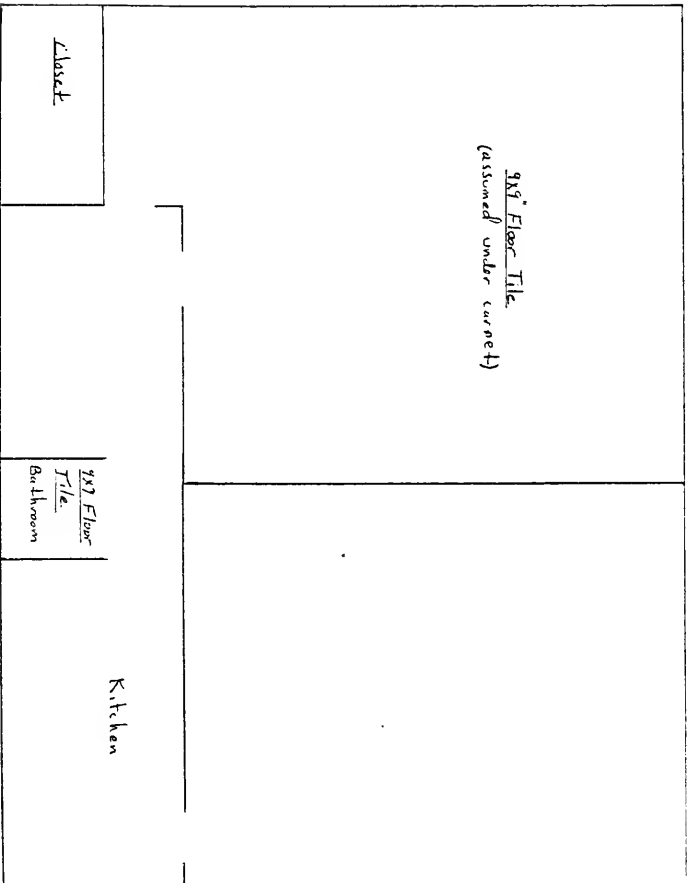


Room 201 - Linn House





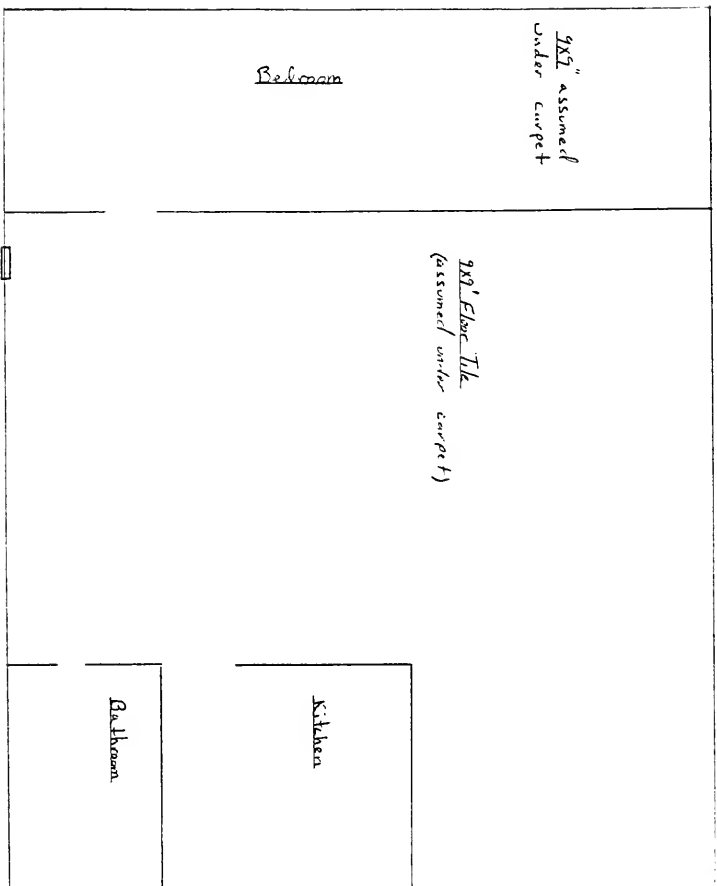
Kelly Davis - Evans House







Koorn 200 - 4 vms. Huis





Room 322, 303, 304 - Evans House

9x9 Floor Tile



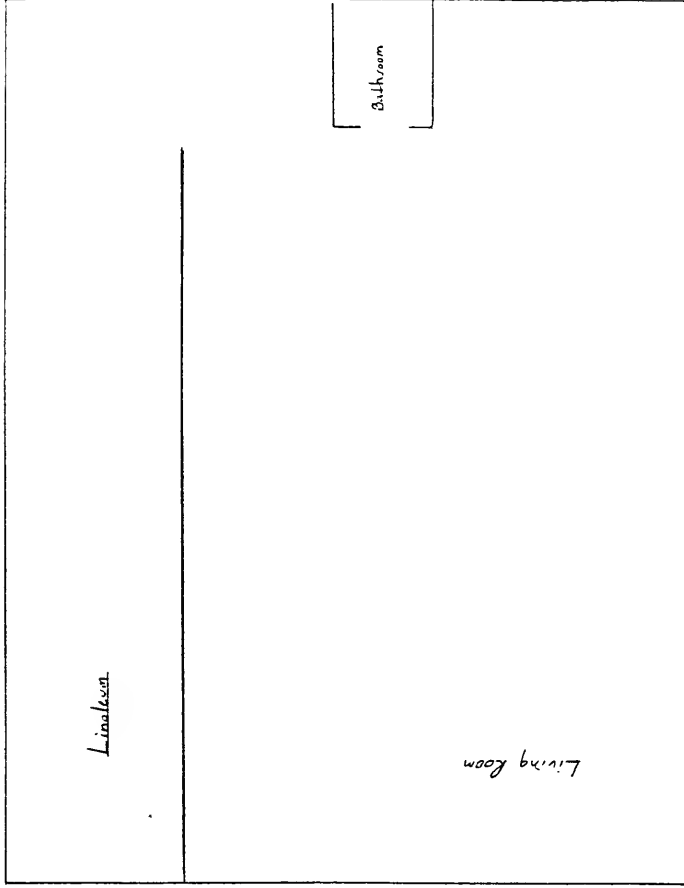
Koon 308 + 301 - Koon House

No Access to 205, 306, 307

9x9" Floor Tiles



Room 310 - Living Room







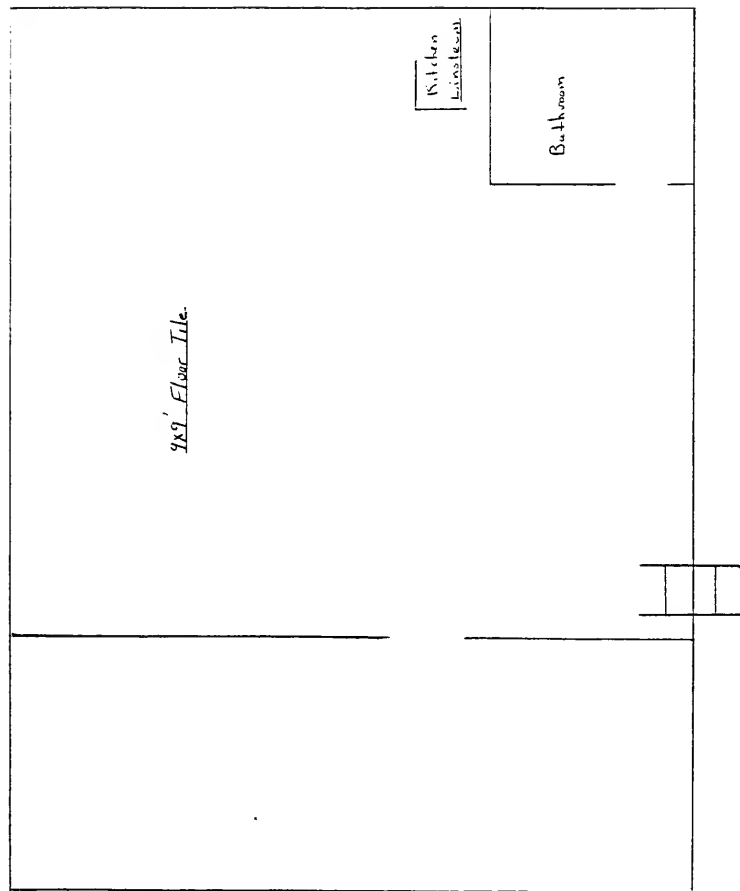
9x9 Floor Tile.

9x9 Floor Tile.

Bathroom

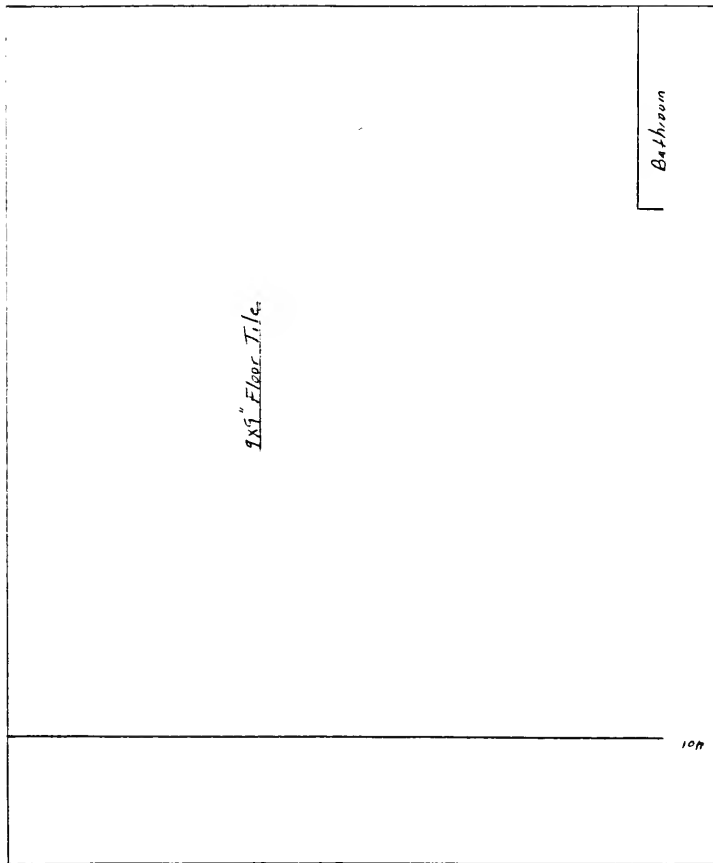


Room 315 - Evans House -





Room 409, 415 - Evans House.





Rooms 405 + 404 - Evans House -

402 - No Access

9x9 Floor Tiles





Room 406, 407, 408 - Lovers House

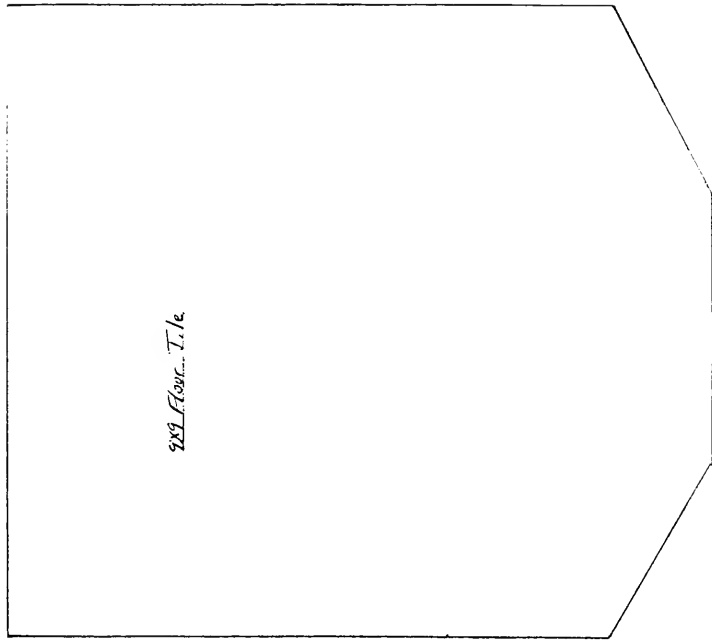
409 - NO Access

3x9" Floor Tile



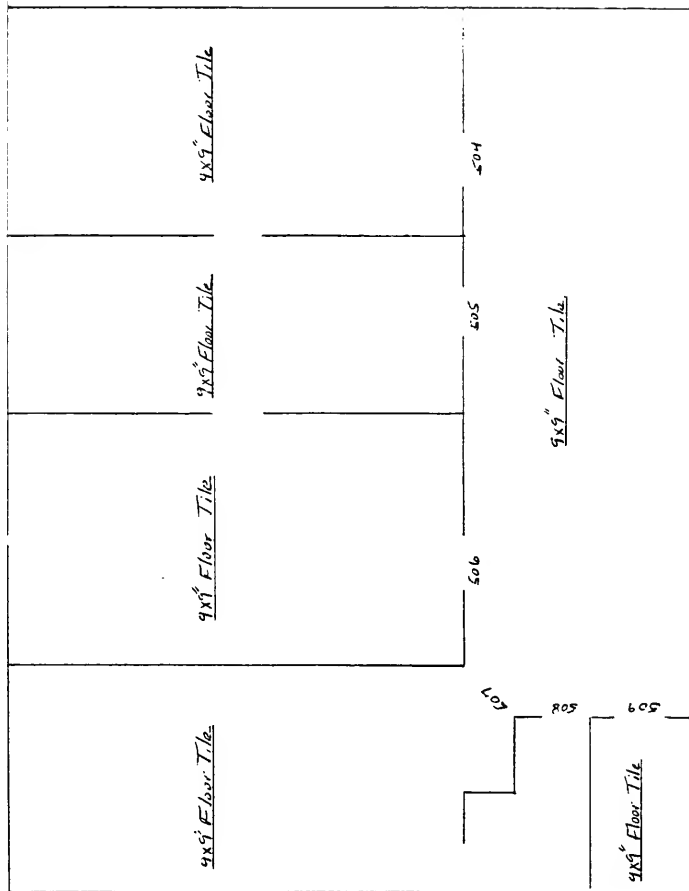
Room 501 + 502 - Evans House -

9x9 Floor Tile





Advertising Department - Evans House-





Room 603, 604, 606, 608 - Evans House.

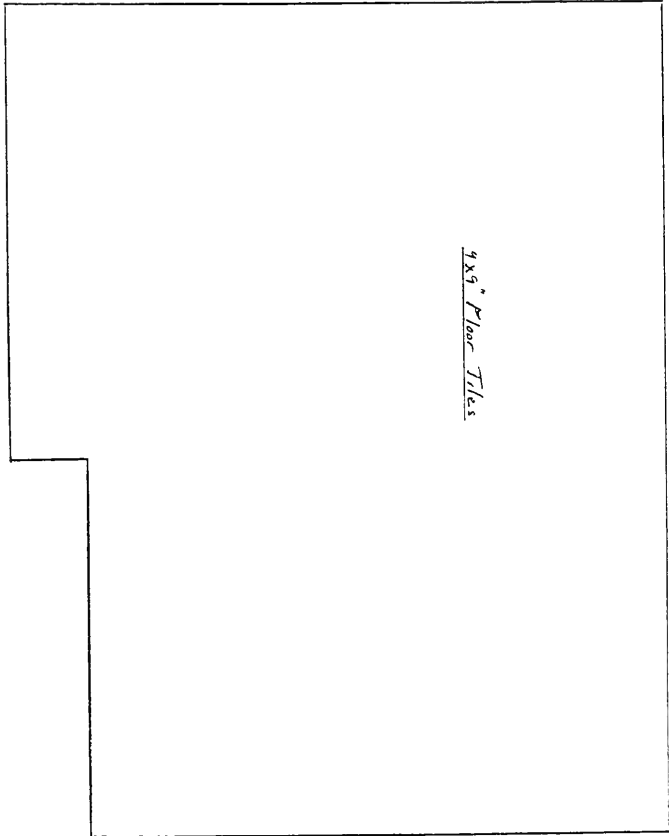
601, 602, 612 - No Access

Linslava  
489 Floor Tiles (Room 604)





Room 614 - No Access

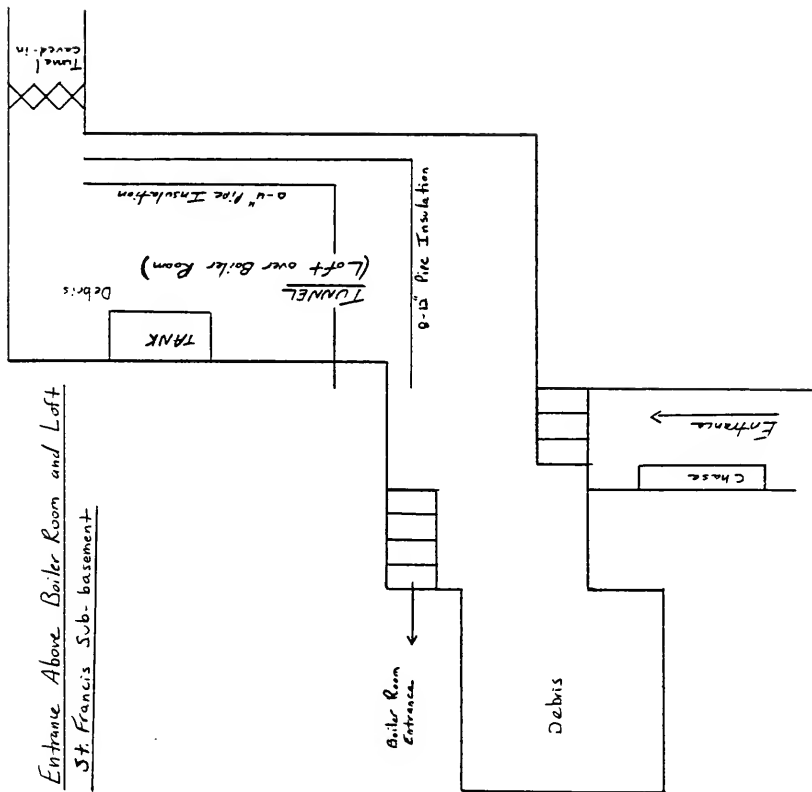


4x8" Floor Tiles

Room 611 + 612 - Evans House

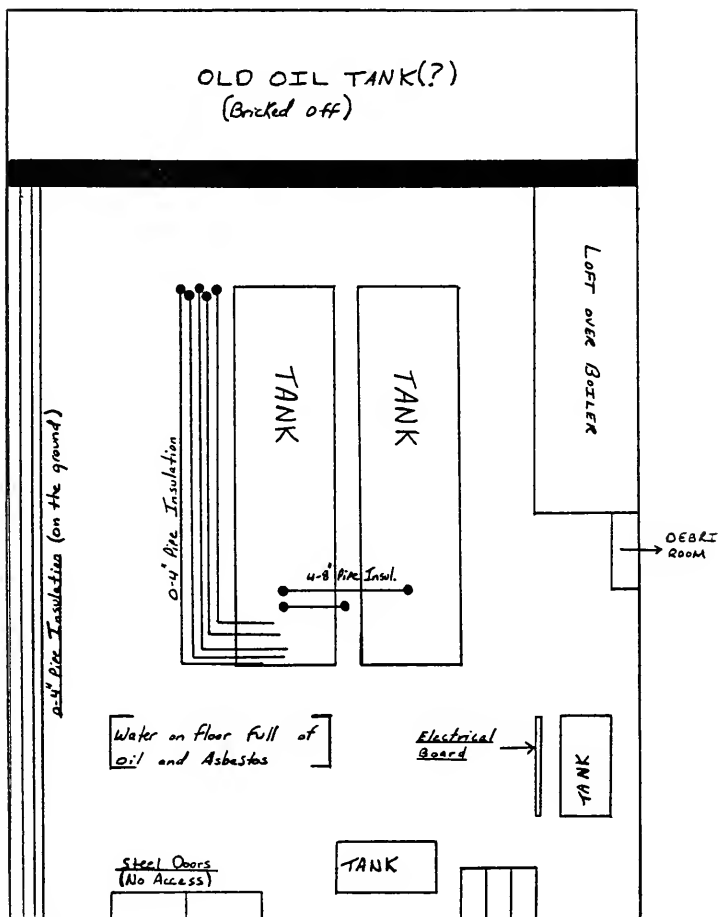


Entrance Above Boiler Room and Loft  
St. Francis Sub-basement



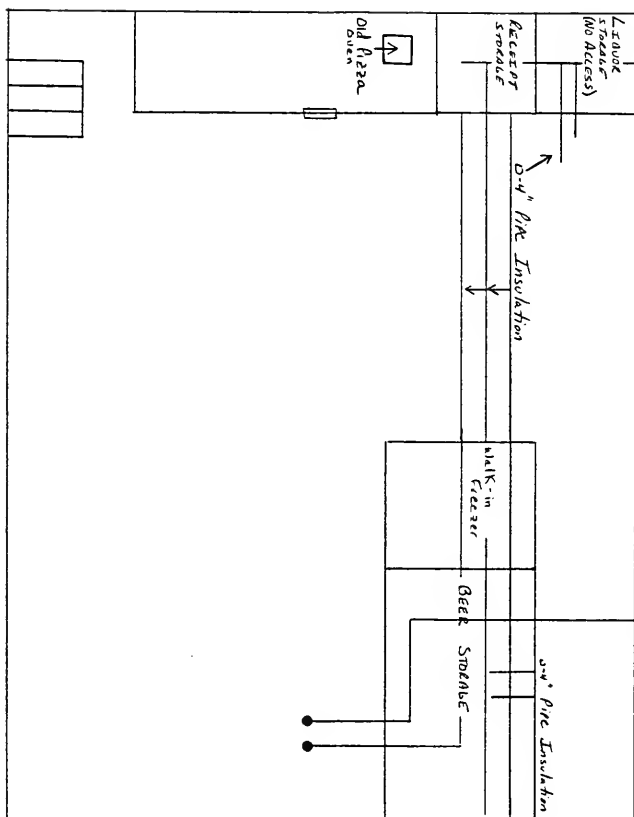


Boiler Room Under St. Francis Parking Lot





# BASEMENT - HAYMARKET

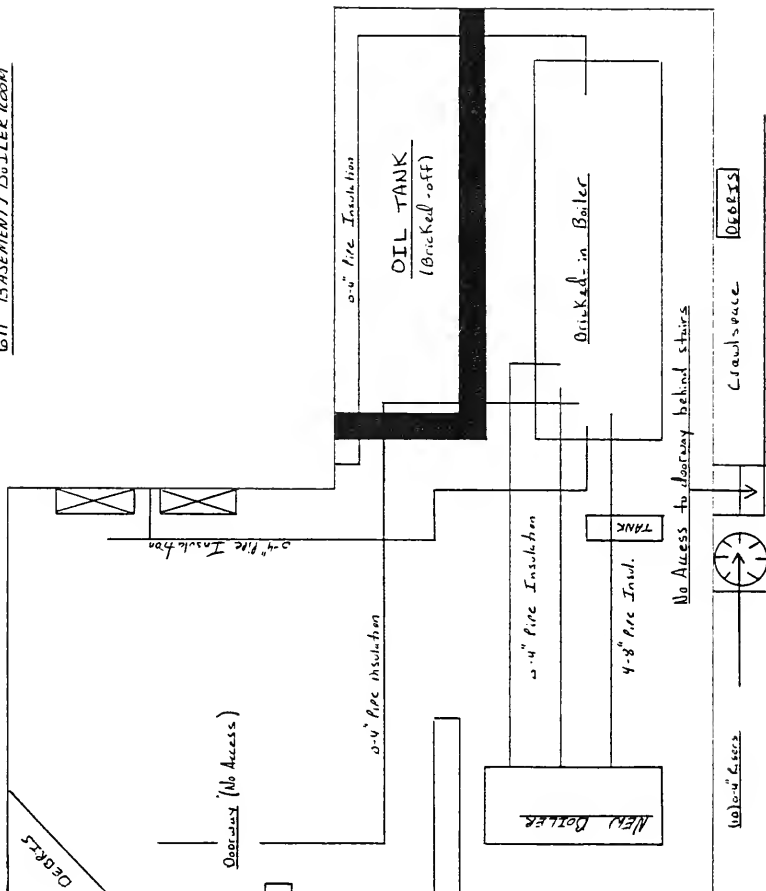


WASHINGTON STREET



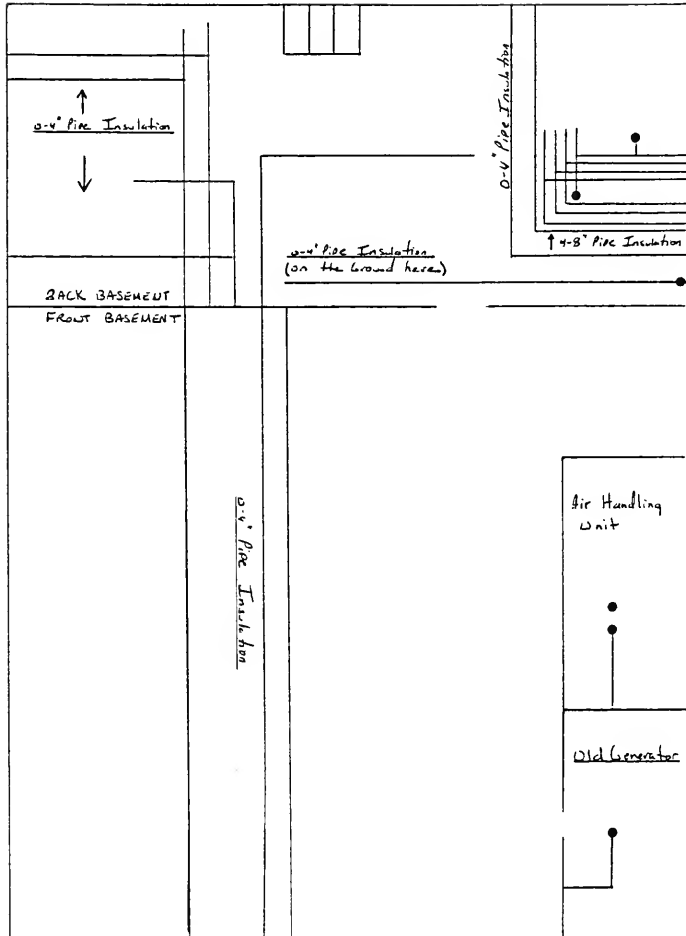


611 BASEMENT/BOILER ROOM





Leandwill Basement



WASHINGTON STREET



Goodwill Store

LOFT



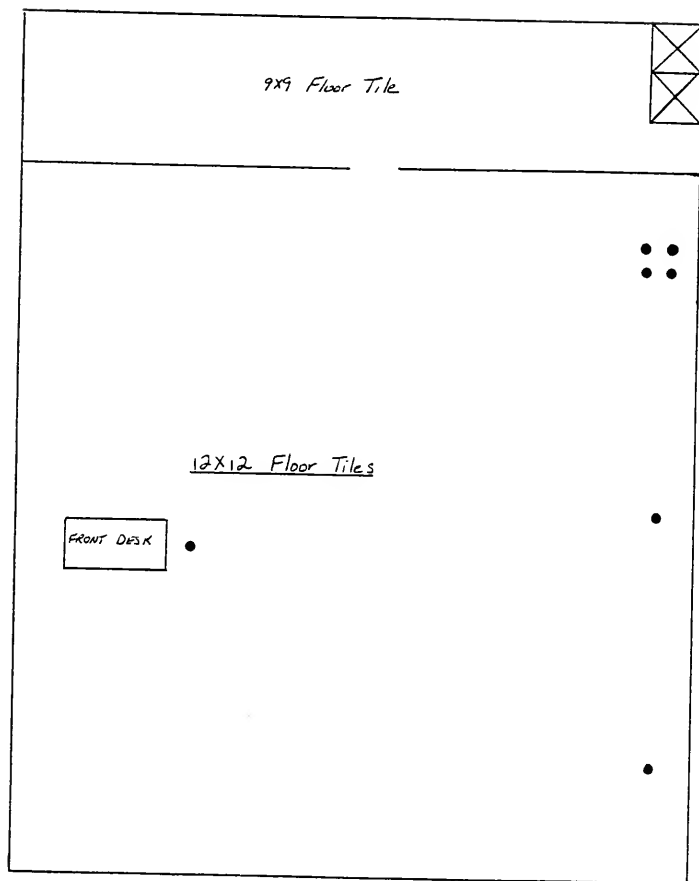
JACK ROOM

0-4" Pipe Insulation

12X12 FLOOR TILE



First Floor Furniture Store - 611



WASHINGTON STREET



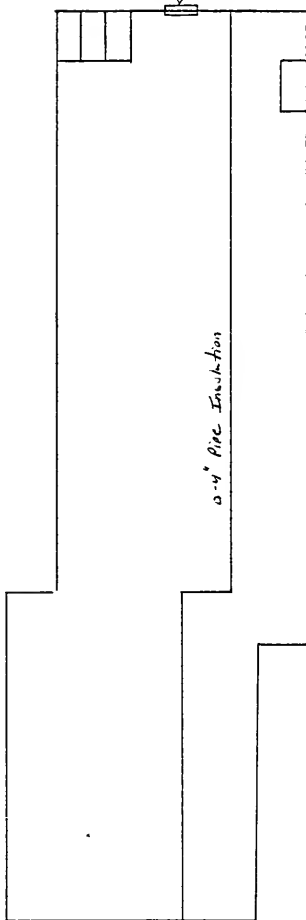


THIRD FLOOR HALLWAY - 611

Access Panel (No Access)

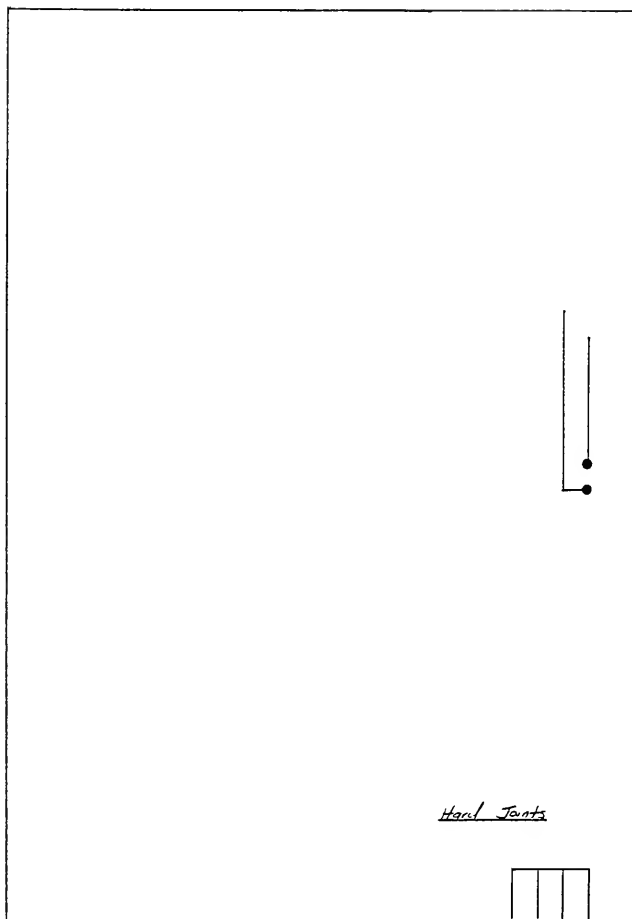
312 ADVERTISING (No Access)

0.4" Pipe Insulation





NHC Department - 611

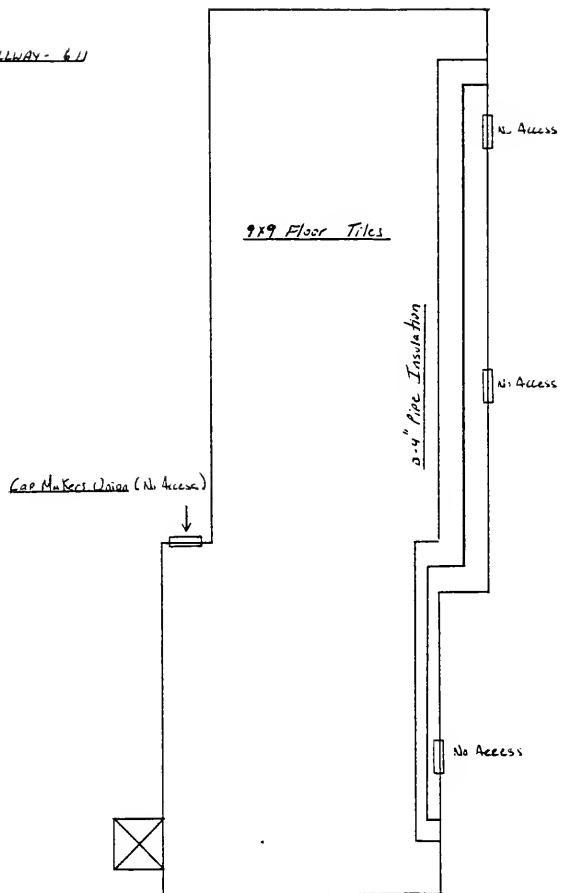


WASHINGTON STREET

Hail Joints



FOURTH FLOOR HALLWAY - 6U





Jo Jo Mfg - Fourth Floor - 611

9x9 Floor Tile

WASHINGTON STREET

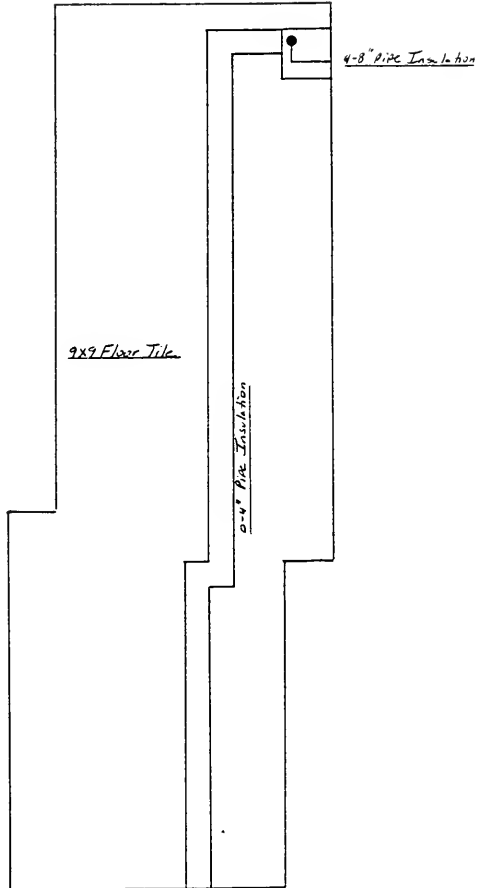
4-8" Pin Insulation

No Glass



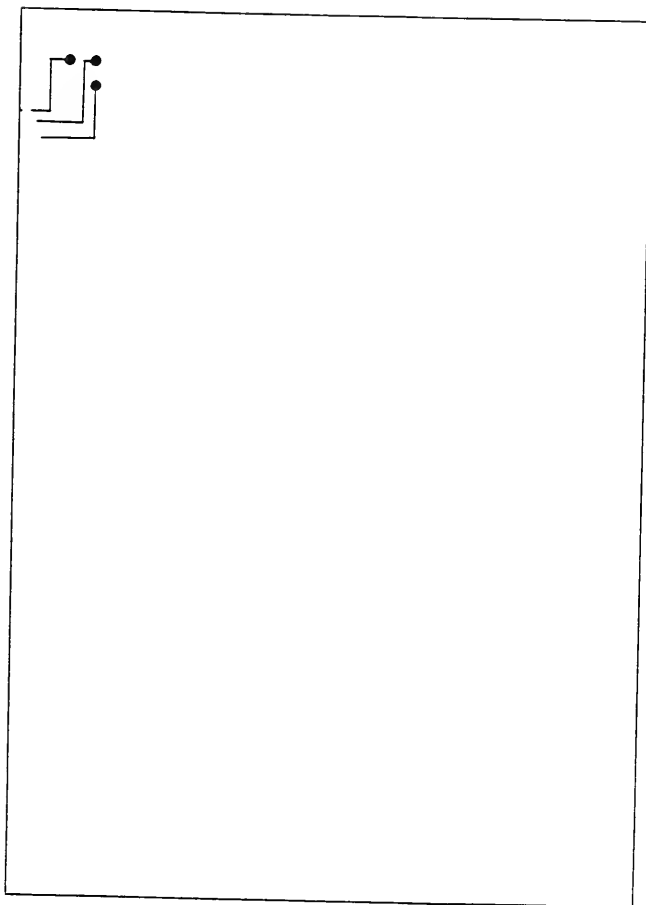


FIFTH FLOOR HALLWAY - 611



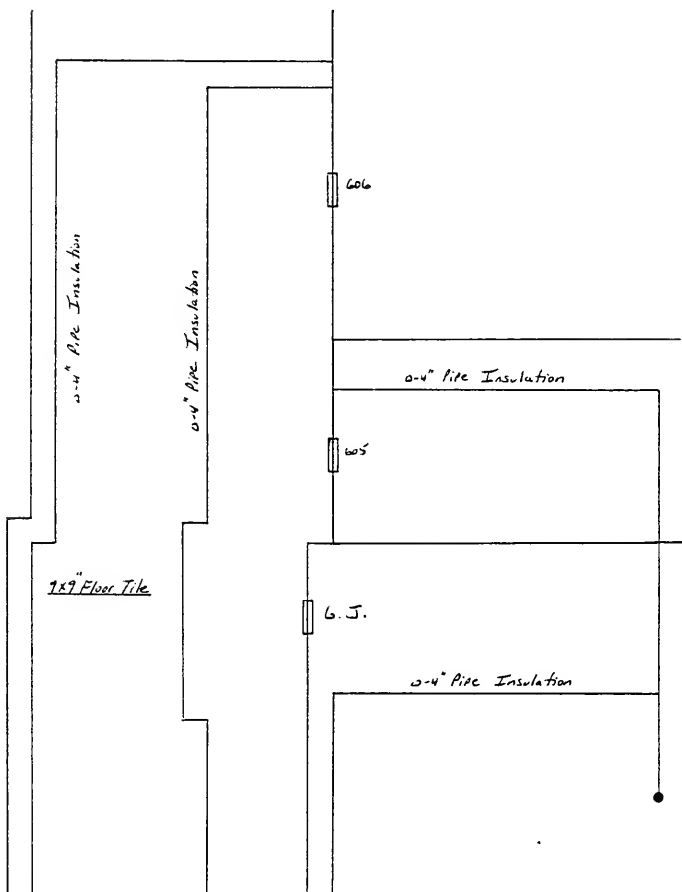


Room 504 - 611





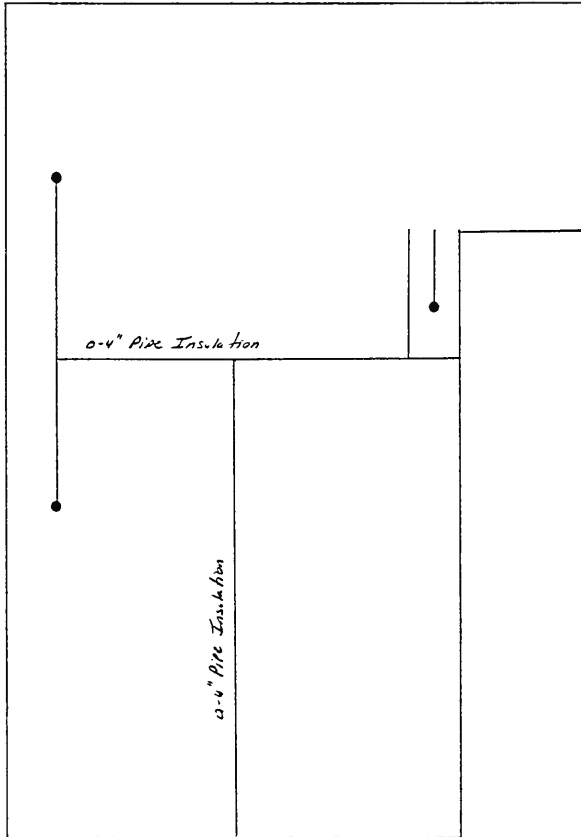
SIXTH FLOOR HALLWAY G.J. TRACKING 605 606 - 611





SIXTH FLOOR HANG HAT AREA - 611

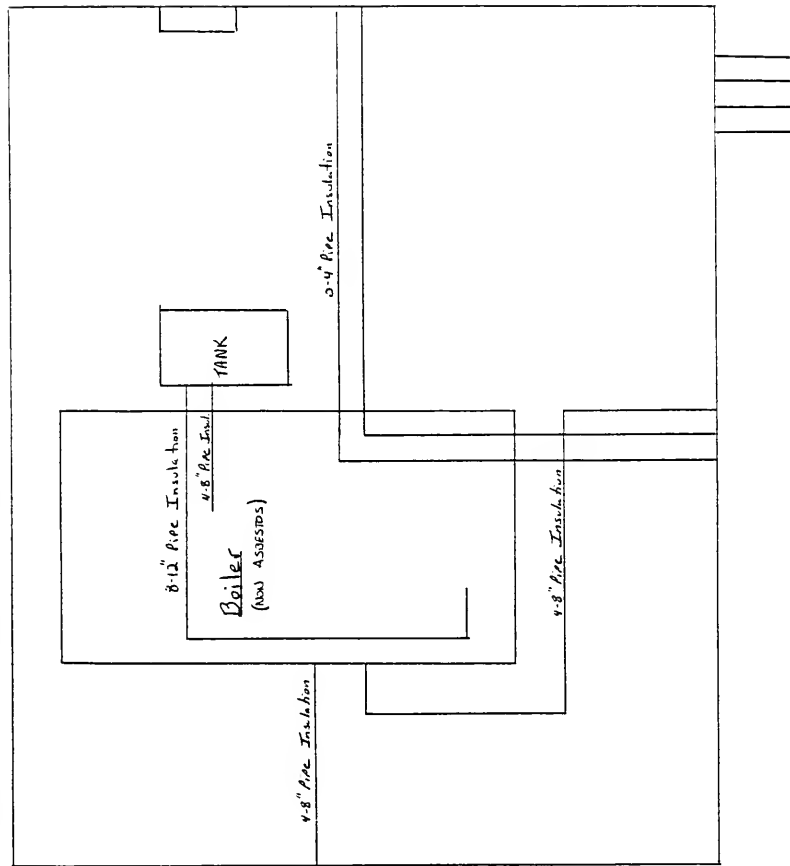
WASHINGTON STREET





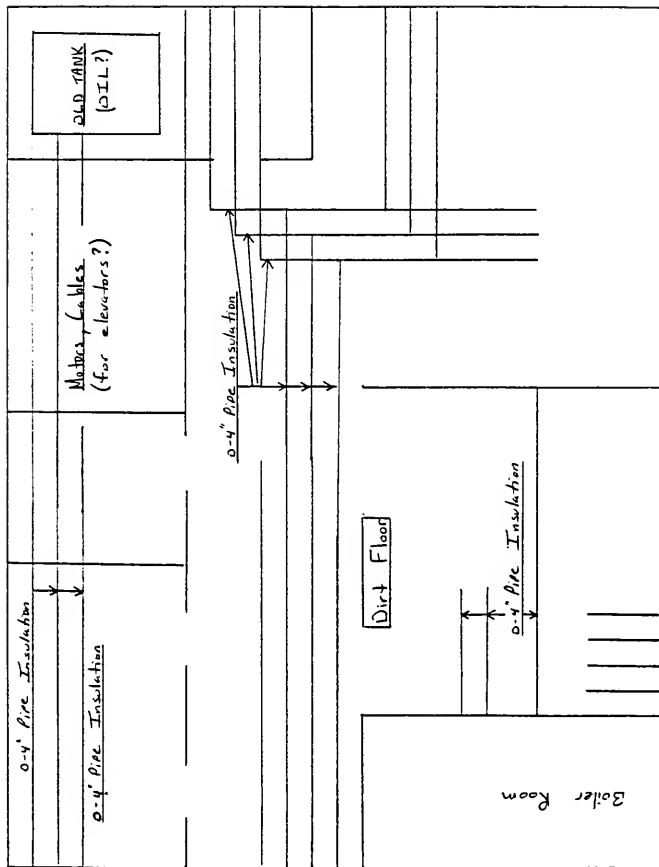


Boiler Room in Sub basement - Alvesty





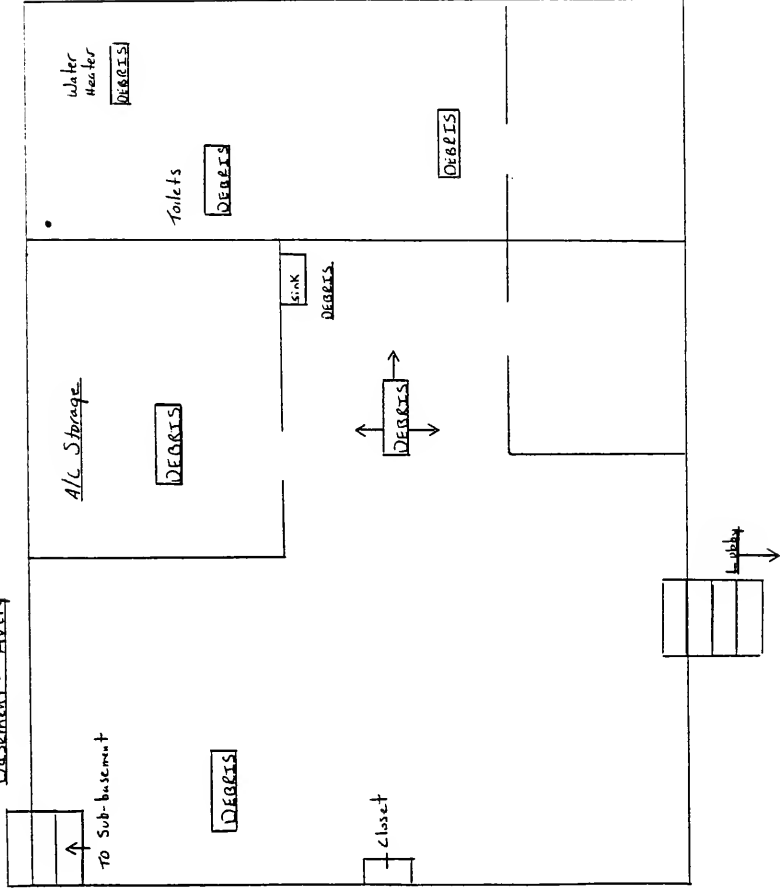
Avery Street



### Sub-basement - Avery

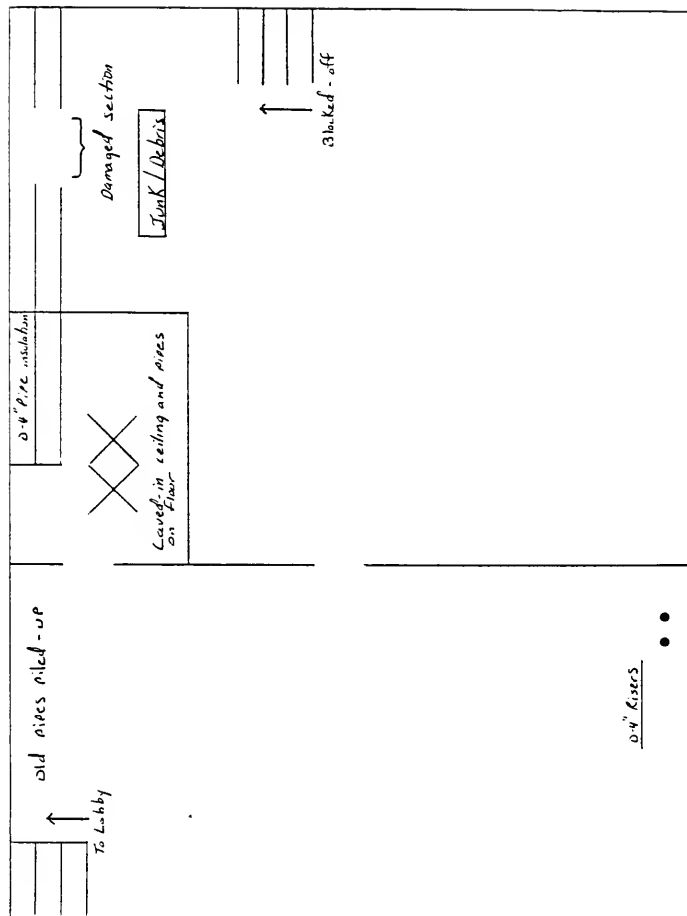


Basement - Avery





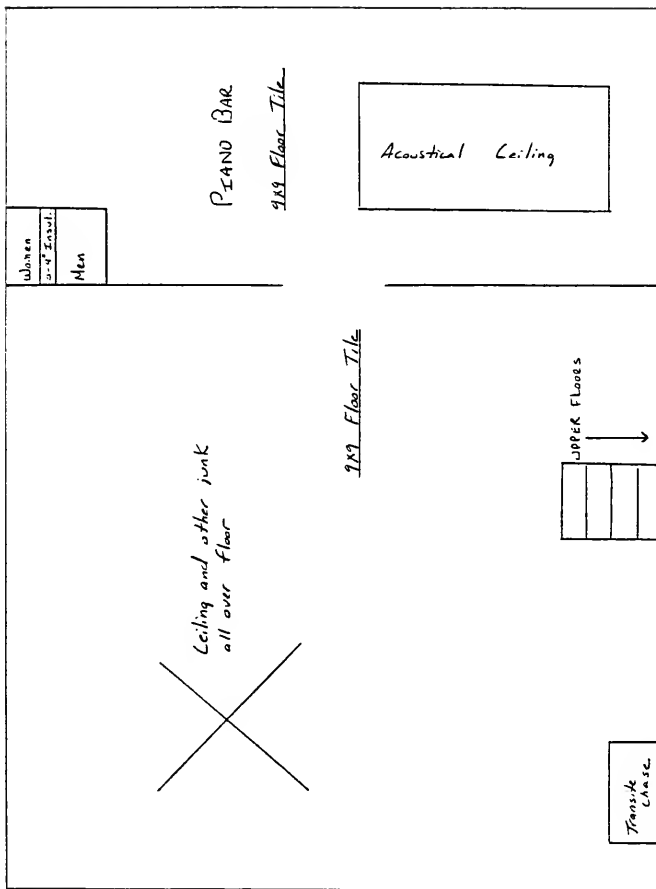
Basement Lobby - sketch





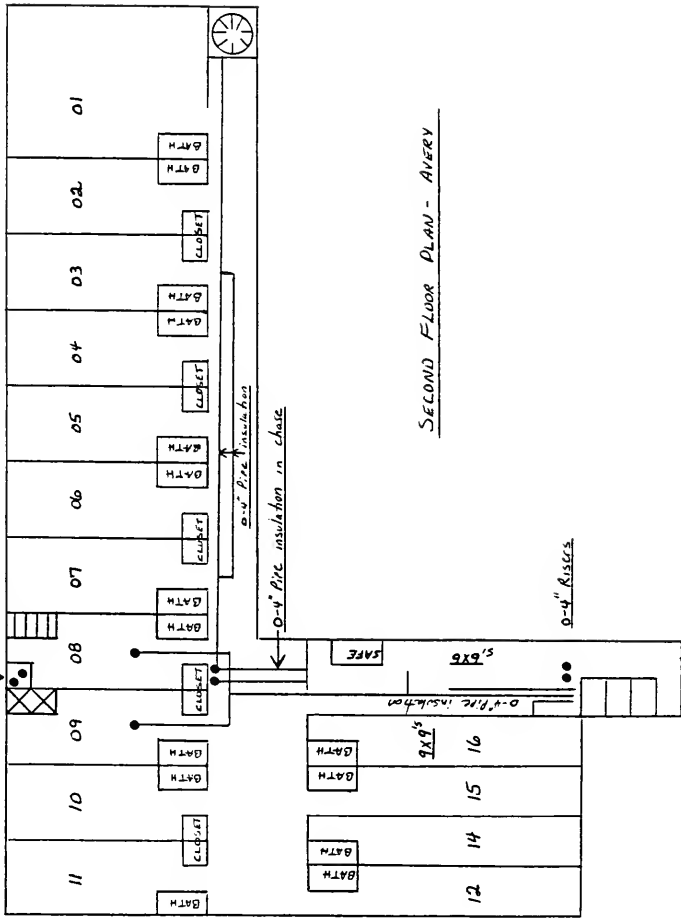


Main Lobby - Avery





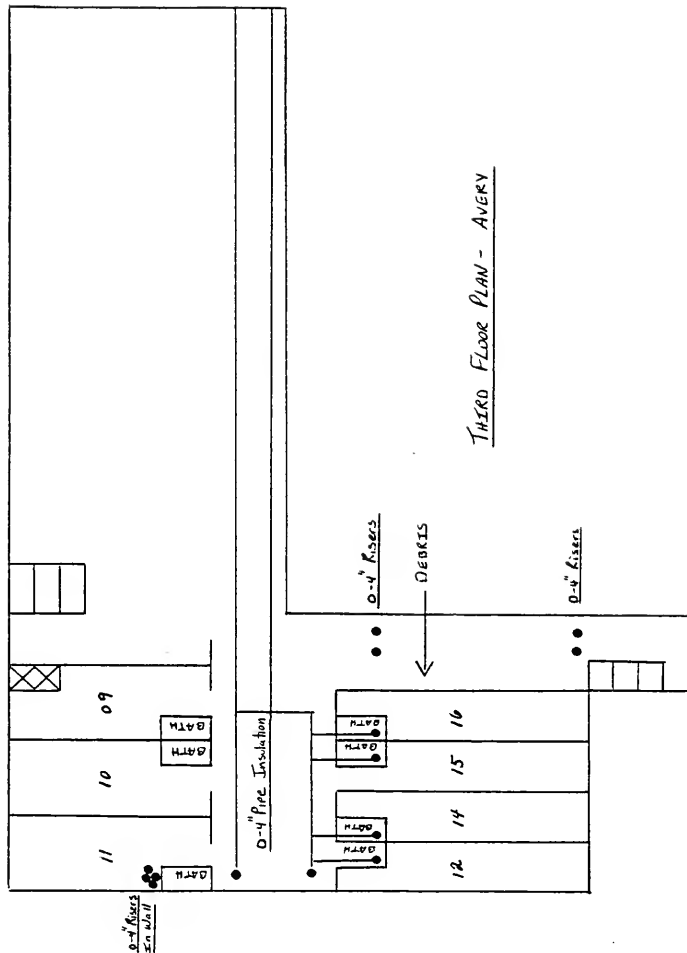
AVERY STREET  
0-4" RISERS in Chase



SECOND FLOOR PLAN - AVERY



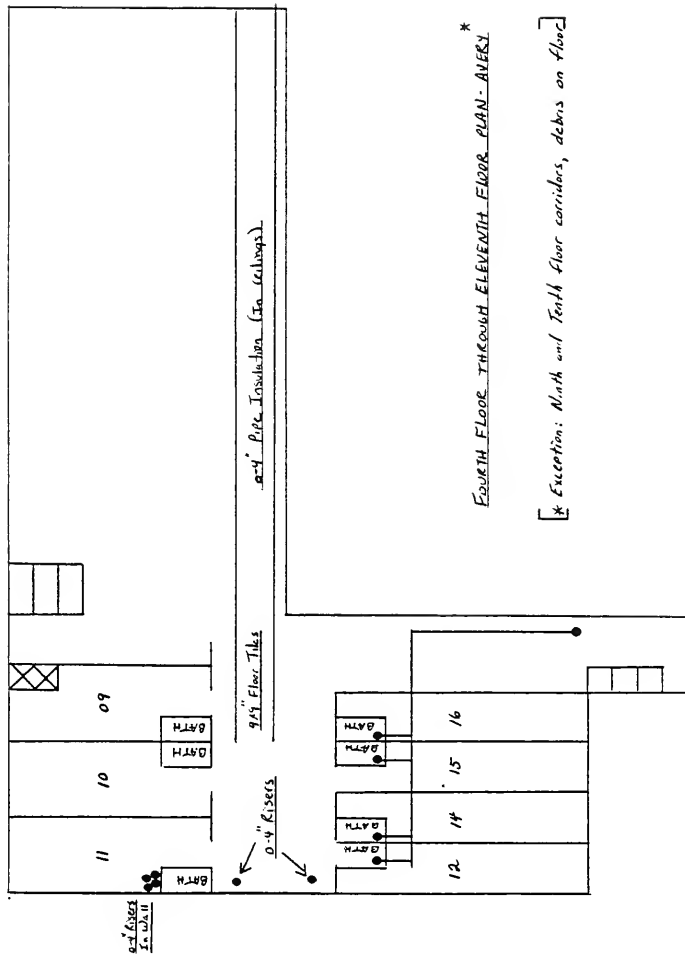
ALVRY SILEET



THIRD FLOOR PLAN - ALVRY



AVERY STREET



FOURTH FLOOR THROUGH ELEVENTH FLOOR PLAN- AVERY \*

[\* Erection: Ninth and Tenth floor corridors, debris on floor]







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